

From owner-qrp-1@Lehigh.EDU Mon Jan 13 18:02:40 1997
From: "Laura" <sputnik@imt.net>
Subject: [8706] "one thing stopping....from getting 38S"
Message-ID: <199701131519.IAA28848@cu.imt.net>

You wrote:

>Only thing stopping me from ordering mine is novices can't use it!
>(more hints).
>Joe Hartmann
>K2AJV

Yeah, but Joe, you won't be a novice forever! The 38 Special gives you something to do while your developing skills to advance your license as well as incentive to upgrade! You may look back in another year (more or less) and be like me offering to sell internal organs to get a 49er! Think about it! Good luck!

73 de KJ7UN, Laura

Laura Marino Lubner - Reese Creek Montana USA
sputnik@imt.net <http://www.imt.net/~sputnik>
GHRC / ARRL / 10-10 #68896 / FISTS #2785 / MARC / QRP-L # 790

From owner-qrp-1@Lehigh.EDU Mon Jan 13 18:02:40 1997
From: SNickrand@aol.com
Subject: [8664] 28 Special?
Message-ID: <970112204758_1657159534@emout12.mail.aol.com>

I've ordered two 38S's hoping one of you talented folks figures out how to change it to 20 meters (hint, hint). KB9KOL

From owner-qrp-1@Lehigh.EDU Mon Jan 13 18:02:40 1997
From: Doug Hendricks <ki6ds@dpol.k12.ca.us>
Subject: [8742] 38S Boards?
Message-ID: <1.5.4.16.19970113150145.3c7717e8@telis.org>

Guys, several have asked if 38S boards will be available. The answer is yes, for \$25.

Seriously, no we will not sell "extra" boards. We buy parts in quantities of 1000 to get serious price breaks. If we don't sell the parts, i.e. just sell the boards, then pretty soon we have a lot of extra parts lying around. To sell boards only will break up the "set" of parts and boards that we

have, and will seriously affect our ability to sell the kit for \$25. We are able to sell the kits for \$25 for several reasons:

1. Quantity buying
2. Volunteer Labor
3. Designer was cognitive of cost
4. Knowing where to buy parts

It will be exciting to see all the "hacking" and mods that come of this framework. Gee, wonder what the "building contest" will look like?

By the way, parts and boards were ordered this morning for the second run of 500 of the 38 Special. We should have the boards in 12 to 15 days. Note that if you have an order number of more than 475, you will be in the second run. Be patient, we are shipping now, and we will get to you.

72, Doug, KI6DS

From owner-qrp-1@Lehigh.EDU Mon Jan 13 18:02:40 1997
From: Robert Penneys <radio@UDel.Edu>
Subject: [8692] ==Delaware QSO Party Feb 1/2==
Message-ID: <199701131123.GAA24408@copland.udel.edu>

Finally - the Delaware QSO Party!!

Sponsored by the First State Amateur Radio Club

Who - All radio amateurs in and out of Delaware

When - First full weekend in February (1997: Feb 1 & 2)
Saturday: 1700Z (1200 EST) until 0500Z Sunday (2400 EST Sat.)
Sunday: 1300Z (0800 EST) until 0100Z (2000 EST Sun.)

Where - Suggested frequencies are:

Phone	CW
1.860	1.825
3.960	3.550
7.260	7.050
14.260	14.050
21.360	21.050
28.360	28.050

Novice and Technician freqs: 25 kHz above sub-band edge

This does not imply that you may not work any bands you choose, such as VHF/UHF/SHF. However, as there is only one entry class, all logs will be judged equally.

- How - Work stations once per band and mode.
Exchange signal report and QTH (county for Delaware stations; state/province/DXCC country for others).
- Scoring - There is ONE CLASS for all stations.
Count ONE POINT per PHONE QSO.
Count TWO POINTS per CW/RTTY/Digital QSO.
Multipliers/special event stations: NONE.
- Awards - Certificates will be awarded in the following categories:
Within Delaware: first, second and third highest score.
Within each Delaware county: highest score.
Others: first, second and third highest scores.
Further prizes and certificates may be awarded, depending upon participation and merit.
Certificates and prizes courtesy of Ham Radio Outlet, Delaware.

Submissions-

There are no requirements for dupe sheets, and no forms nor software offered especially for this contest.

Logs must show date, time, band, mode, station worked, exchange send and received, entrant's call and QTH, and total summary of QSOs and points. You are assumed to be observing the rules of amateur radio and contesting, so that no such written statement is required.

Mail entries within 30 days to: Contest Chairman
FSARC, Inc.
P.O. Box 1050
Newark, DE 19715

Include SASE for results.

E-mail logs with adequate summaries, and any other comment or inquiry to:

radio@udel.edu

Results will be posted through 3830@contesting.com, and e-mailed to NCJ and CQ.

Thanks and LET'S GO DELAWARE!!

From owner-qrp-1@Lehigh.EDU Mon Jan 13 18:02:40 1997
From: ac5am@juno.com (Robert L Stolzle)
Subject: [8693] AC5AM FSFD QSO's Listed
Message-ID: <19970113.052608.9766.1.ac5am@juno.com>

Hello again Everybody,

I had a little time Sunday afternoon so instead of watching the sleet (very rare here in the Bayou State) decided to go ahead and list all the QSO's so everyone could see that they are indeed in my log. Hope I didn't miss anyone. (If I did it was not intentional, my apologies.)

80M morning coffee session

				sent	rcvd	
1116Z	KA5T	559	559	TX	Larry	5W
1125	C02CI	569	569	Nr	Havana	Aki 100W
1133	WB5RKJ	579	579	TX	Olin	5W
1137	K4NK	569	559	SC	Les	4W
1139	N40LN	569	559	GA	Gary	5W
1141	K4WZ	569	599	GA	Ron	5W
1154	N4BP	559	559	FL	Bob	5W

40M after breakfast session

				sent	rcvd	
1230Z	KD0CA	559	539	IA	Jerry	5W
1236	N40LN	569	449	GA	Gary	5W
1241	K1CL	449	339	MA	Chuck	5W
1248	KI7MN	559	559	AZ	Bob	4W
1255	K3VP	559	559	PA	Vic	3W
1259	W1ME	229	339	ME	George	2W
1310	KA5T	559	559	TX	Larry	5W
1312	KS4HQ	559	559	NC	Bob	5W
1317	W2KJ/4	569	579	NC	Joe	5W
1320	W2DP	559	449	NJ	Bill	5W
1326	N0UR	559	579	MN	Jim	5W
1328	KR4GL	549	559	VA	John	50W (Op. fm car)
1340	N4BP	569	559	FL	Bob	5W
1343	N0AC	579	529	IA	Bill	100W
1345	WD4DXP	589	579	GA	Don	5W
1349	K6HCJ	569	559	CA	Marv	5W
1354	KC4PFU	569	579	NC	John	100W
1359	NU4N	449	449	KY	Dave	5W

40M Novice band

					sent	rcvd
1442	KE4ZUD	569	559	FL	Jose	100W
1455	W4ED	589	559	GA	Bob	5W

30M band (next time I will spend more time on this band)

					sent	rcvd
1602	N4BP	589	579	FL	Bob	5W
1606	WA1QVM	339	579	MA	Joel	4W
1607	WA8LCZ	559	439	MI	Byron	5W
1610	K4WZ	569	579	GA	Ron	5W
1612	N0UR	589	579	MN	Jim	5W
1617	K3PBY/4	589	579	FL	Chuck	75W
1624	VE5RC	559	339	SK	Bruce	5W
1629	W8LRM	229	449	MI	Al	5W
1633	WA7RQP	599	579	NC	Robert	2W
1643	W8EUI	589	569	MI	Jim	50W
1646	W8MJG	579	579	OH	Dick	100W
1651	WA1UPB	569	559	NC	John	5W
1655	WA9AWJ	549	539	WI	Art	3W
1657	W2SF	579	589	NY	Bob	200W
1704	AA1BK	559	559	NC	Steve	2W
1707	K3QIO	449	569	DE	Jim	5W
1710	NN0F	559	559	IA	John	2W
1712	W0LK	549	579	AR	Bob	5W
1716	VE3JC	559	559	ON	John	5W
1720	W1UXT	449	559	MA	Ron	5W

15M band (had many good strong sigs here today)

					sent	rcvd
2012	W4ED	589	559	GA	Bob	5W
2017	N40LN	549	329	GA	Gary	5W
2024	KU8E	579	599	OH	Jeff	100W
2028	K3QIO	229	339	DE	Jim	5W
2035	K7TP	579	559	CA	Grover	5W
2038	KG7VM	599	599	OR	Doug	100W
2048	KS4HQ	569	569	NC	Bob	5W
2053	WA4EDP	579	559	KY	Alan	100W
2059	N4USG	599	599	TN	Bob	100W

(worked Gary on 3 bands)

20M band (usually a great QRP band but a flop this time)

					sent	rcvd
2119	WA8LCZ	229	419	MI	Byron	5W
2126	KB7TTO	579	569	WA	Dave	80W
2205	K1CL	559	559	MA	Chuck	5W
2208	W1DJK	449	549	MA	Larry	5W
2219	AA7MU	599	579	UT	Rowell	100W

2225 NB6Z 579 579 OR Griff 100W

40M band PM session--too many QRO contesters
sent rcvd

2320 WA9PWP 559 589 WI Paul 5W
2336 KD4URC 569 569 FL Rick 5W
2353 AI4FL 599 599 FL Tom 5W
0136 KI8AF 559 479 MI Greg 100W
0207 W8TYX 589 449 OH Harvey 100W
0238 AA4NO 579 579 AL Jim 100W

80M band PM session

sent rcvd
0019 K0LWV 579 579 MO Larry 5W
0021 KK5RO 569 599 OK Vernon 5W
0024 K2SNJ 559 559 NY Dave 5W
0029 W1ME 229 339 ME George 2W (thanks George, tuff going but it
was worth it. I needed ME)
0036 AC6RY 549 549 CA Roger 100W
0047 W4ED 569 559 GA Bob 5W (worked Bob on 3 bands)
0054 WA8LCZ 559 439 MI Byron 5W (worked Byron on 3 bands)
0058 AB5UA 579 599 OK Cliff 4W
0100 AC6KW 339 339 CA Jeff 5W
0106 K5ID 559 559 AR Ken 5W
not going to list all the QRO contesters that called me

"That's all folks" Thanks to everyone listed for the QSO. Hope we can
do this again.

Rig: Morning using Ten Tec OMNI C @ 5W output, resonant half wave
dipoles.

PM using Corsair II @ 5W, full wave loops.

Oh, just as I am finishing this nabbed Randy AA7TK 0021Z on 40M 559 and
559, thanks Randy--good job.
So far I haved worked at least one rep from each state. (I need AK and HI
for WAS QRP, mostly on40M)

72/73,

Bob, AC5AM AR-QRP #23, MI-QRP #1530, NorCal-QRP #1784

-----QRP-ARCI #9105, NE-QRP #504 & CW FISTS #2516

" Son of a gun, we'll have big fun"----- "QRP on the Bayou....."

From owner-qrp-l@Lehigh.EDU Mon Jan 13 18:02:40 1997

From: Ed Pacyna <pacyna@auratek.com>

Subject: [8746] Active Band Pass Filters - Some staggering thoughts

Message-ID: <3.0.16.19970113174443.1947e00c@galaxy.auratek.com>

OVERVIEW:

The purpose of this post is to introduce a method for designing high performance, low cost active filters.

It's very easy to build very narrow band active audio filters by cascading identical stages one after another (each having the same center frequency, gain and Q). These are known as synchronously tuned filters and have been implemented by the vast majority of equipment providers to the QRP community (e.g. Ten-tec, Heathkit, MFJ, XYZ Kit Company etc.). You have seen this methodology used over and over again in filter "how to" and receiver construction articles (e.g. 73, QST, Handbook, Solid State Design, W1FB QRP books, QRP club publications etc.).

They may be adequate for some tasks but leave a lot to be desired in terms of transient response (ringing), band-pass (peaked / needle nosed) amplitude response and skirt selectivity (shape factor).

THE PROBLEM WITH SYNCHRONOUSLY TUNED FILTERS:

When cascading identical (same Q and frequency) filter stages, the bandwidth of the individual stages combine and the total overall Q is reduced by a shrinkage factor. In other words, selectivity is achieved by increasing the overall Q. However, recall that $Q = \text{center frequency} / \text{bandwidth}$, so the total practical Q is limited (typically 5 to 7) and the few additional poles introduced by the additional stages contribute very little to improving the filter's shape factor.

A STAGGERING SOLUTION

Consider for the moment the amplitude response of a 2 stage filter (identical gain, Q and center frequency). Now move the frequency of one of the stages slightly higher in frequency. Notice how the rounded top flattens somewhat. If you keep moving the frequency higher, the response changes to two peaks with a dip in the center and eventually to 2 entirely separate amplitude responses. As you moved one frequency not only did the sum of the two stages combine to produce a new amplitude shape, something else happened. The skirts on the section increasing frequency also shifted. The composite response of the two sections (with different frequencies) has much steeper skirts.

To illustrate, the 3:30 dB points for a 2 stage synchronously tuned filter ($F_c = 1000\text{Hz}$, overall $Q = 1.67$) are 5,300 and 622 Hz respectively so the shape factor is 8.52 (5300/622). In a 2 stage stagger tuned filter ($F_c = 1000\text{Hz}$, overall $Q = 1.67$) the 30 dB point is 3940 Hz and the shape factor is now 6.33 (3940/622). In

addition the amplitude response goes from quite round to flat. Note: The 6:60 dB points in such a simple filter would be a joke.

IT KEEPS GETTING BETTER

Using this principle it is possible to synthesize high performance filters to meet specific pass band, band stop, shape factor and transient requirements. For example a 6 stage filter with a 6:60 dB shape factors of 2:1 or less is easily achievable. This is because there is no longer a limitation on individual stage Q's.

The approach is topology independent. The multiple feedback (MFB) circuit most commonly used in building filters works quite well. This means that there are lots of existing PCB's available (or you can just upgrade an existing filter). A typical MFB stage would require that 3 resistors be changed.

The procedure has a couple of steps. Depending on the filter response you specify, you will need to determine the required stage Q, frequency and gain in addition to the component values.

For those that have access to back issues of Ham Radio magazine, the December 1977 issue has excellent article on building stagger tuned filters. In addition, it includes a number of graphs that will cut down the number of calculations. The other reference is the Electronic Filter Design Handbook by Williams and Taylor. Its a professional reference and quite comprehensive.

From owner-qrp-1@Lehigh.EDU Mon Jan 13 18:02:40 1997
From: Stephen Gibson <SWGibson@worldnet.att.net>
Subject: [8707] AEA Isoloop
Message-ID: <19970113154247.AAA392@LOCALNAME>

Anyone had any experience with the AEA Isoloop? Got one of the last ones for Christmas but haven't had a chance to test it since my Argosy is in for an oil change. I'd appreciate any tips.

Tnx in advance

Steve WB4NBI

From owner-qrp-1@Lehigh.EDU Mon Jan 13 18:02:40 1997
From: Dan Keen <70731.722@CompuServe.COM>
Subject: [8723] AEA Isoloop
Message-ID: <970113182200_70731.722_EHM83-1@CompuServe.COM>

> Anyone had any experience with the AEA Isoloop? Got one of the last ones
> for Christmas but haven't had a chance to test it since my Argosy is in
> for an oil change. I'd appreciate any tips.

Don't overlook the fact that the AEA manual notes that you can adjust the match by placing the coax in one of several pre slotted grooves. That adjustment might help gain low SWR across all bands.

The radiation pattern is a little better from horizontal. Another good thing about horizontal when the antenna is mounted overhead of the operating position, is that there would be a null straight down which means less RF field coming right down on top of you. Although horizontal is first choice, vertical orientation works from almost any loop location, whereas horizontal

is finicky about loop placement. Low SWR across all the various bands tells the story whether the antenna will work in a given location and orientation. So vertical is what makes the antenna so versatile and popular, v just doesn't have quite so nice performance as h.

Nothing wrong with using short non metal guy wires or other conservative mounting inside an attic mount because the thing is especially high voltage antenna.

Since AEA is going out of business you may have to decide quick about whether you want to add a new optional automatic tuner, shop later for a used one, or do like most folks and just use the manual box.

I use an older MFJ. MFJ now has a new mutiband small loop now which includes 40 meters.

Dan k6dz

From owner-qrp-l@Lehigh.EDU Mon Jan 13 18:02:40 1997
From: "Laura" <sputnik@imt.net>
Subject: [8701] All needs met here on QRP-L
Message-ID: <199701131444.HAA27449@cu.imt.net>

Thank you to everyone who responded to my desperate plea for a 49er kit. I had several nice offers of boards, components and the like. I even had some offers of a kit, so I have taken one! I am in awe of the wonderful people of this list who jump in to help when we have needs! Thanks so much to you all!~

73 de KJ7UN, Laura

Laura Marino Lubner - Reese Creek Montana USA
sputnik@imt.net <http://www.imt.net/~sputnik>
GHRC / ARRL / 10-10 #68896 / FISTS #2785 / MARC / QRP-L # 790

From owner-qrp-l@Lehigh.EDU Mon Jan 13 18:02:40 1997
From: Elliott Lawrence <edl@pacbell.net>
Subject: [8669] Altoids Boxes
Message-ID: <32D99B2D.6165@pacbell.net>

I had several replys with offers of boxes. Thanks for the quick response. It is much appreciated.

vy 72/73,
Elliott WA6TLA

From owner-qrp-1@Lehigh.EDU Mon Jan 13 18:02:40 1997
From: Elliott Lawrence <edl@pacbell.net>
Subject: [8658] Altoids Impaired
Message-ID: <32D981B6.6598@pacbell.net>

I am severally Altoids challenged. Never have cared for peppermint flavors. Does anyone have any spare Altoids boxes that they are willing to donate to the cause?

vy 72/73,
Elliott WA6TLA
Norcal #1402, QRP-L #920

From owner-qrp-1@Lehigh.EDU Mon Jan 13 18:02:40 1997
From: Mike Robinson <miker@cc.com>
Subject: [8729] AOS-??
Message-ID: <9701131922.AA29678@voder.nsc.com>

I saw a terrific demonstration on saturday.

Chuck and David (I forgot their callsigns), each had a dual band HT and a hand held crossed yagi. They knew when AOS-?? was due and where. They listened for the null then heard the chatter and started talking to stations all around the western half of the US.

If I recall it was about 1617z on the 11th.

Which AOS was it? I'm remembering AOS-25 but can't find any data on it. They were uplinking 2m (145.85 ?) and downlinking on 70cm (436.??).

Anybody recognize this?

(If I seem looney at not remembering all the info it's because I was in charge of the fest that was going on at the time.)

=====

7.3 de Michael N7MR	miker@cc.com	michael@frii.com
http://www.frii.com/~michael		
QRP-L #126	Norcal #857	CQC #180

=====

From owner-qrp-l@Lehigh.EDU Mon Jan 13 18:02:40 1997
From: Joe Gervais <vole@primenet.com>
Subject: [8731] ARCI SSB Fireside Sprint - Oof!
Message-ID: <199701131939.MAA03655@primenet.com>

Howdy Folks,

To operate CW QRPP is a bold, intrepid move. To operate
SSB QRPP is just plain lonely. :-/

Thanks to everyone who gave me input on operating QRP SSB
for the ARCI Fireside Sprint. Decided to go for it, but
ran into a major stumbling block. I'd known that the older
QRP+ critters didn't put out much power on SSB, but I
couldn't get mine to budge more than 1/2 a watt or so.
Hey I like a challenge, but.... :-)

I'll give Bruce at Index Labs a call.

Heard ScQRPion Floyd (NQ7X) at S-5 and an Oklahoma QRPer
at a solid S-7 (wow!), plus a few others calling "QRP Test".
Kinda sad hearing all the fun but not being able to play.
Not a soul could hear me. And what was up with the QRM on
20m? Is this a case of "Use it or lose it"?

Was fun hearing everyone though - sounded like quite alot
of activity. Next year I just want to be able to get in on
it!

Cheers de KC7NEV,

-Joe, vole@primenet.com, AZ ScQRPions (Phoenix)

From owner-qrp-l@Lehigh.EDU Mon Jan 13 18:02:40 1997
From: ka7you@juno.com (rodney j johnson)

Subject: [8662] Button batteries for clocks
Message-ID: <19970112.170855.11558.10.KA7YOU@juno.com>

I have little LCD clock that was originally designed to be used with a single button battery. When the battery died, RS wanted \$3.95 for the battery, so I mounted the clock on a AA sized battery holder, and wired it into the battery terminals. It is still running five or six years later, on the same battery. I did not think the shelf life of the battery was that long, and it is still running the clock ! I wonder if the "Sell by" date will expire before the battery does. Does that mean the time will become stale?

7 3,

Rod Johnson KA7YOU

From owner-qrp-1@Lehigh.EDU Mon Jan 13 18:02:40 1997
From: Martin Squicciarini <skitch@resuba.com>
Subject: [8711] CMOS II Keyer
Message-ID: <Pine.LNX.3.91.970113113936.6108K-100000@resuba.com>

I finished the keyer after replacing the transistors that were provided with the kit with 2N2222 as listed in the schematics and everything works fine. Now where can I get a copy of the manual. One did not come with my kit only a few sheets with a list of new commands and corrections. If anyone has a copy of the manual please let me know. TIA

72/73

Marty Squicciarini NR3Z
skitch@resuba.com (home)
msquicci@vf.lmms.lmco.com (work)

From owner-qrp-1@Lehigh.EDU Mon Jan 13 18:02:40 1997
From: "Len W. Tough" <len@infinet.com>
Subject: [8676] CQrp Challenge Contest! - Mark UR Calendars
Message-ID: <199701130425.XAA05093@mail1.infinet.com>

*** ANNOUNCEMENT ***

THE date for the CQrp CHALLENGE CONTEST is set.

The CQrp (Columbus QRP Club) Challenge is open to all amateurs, with award certificates available for QRP stations.

The Contest Begins on February 15th at 1700 Z and ends on February 16th

at 1700 Z

The contest is intended to be simple to operate, and fun to compete in.

Details are available at the CQrp Web Site -
<http://www.infinet.com~len>

For those that do not have web browser access, CQrp will post the information here later this month.

Enjoy, and Good Luck!

On Behalf of The CQrp Members:

Best 72/3

Len

KG8SF

len@infinet.com kg8sf@key.com

QRP-L # 841	CQrp # 2	ARCI # 9025	FISTS # 2134
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CHARTER MEMBER - THE COLUMBUS QRP CLUB - CQrp
Web Page: <http://www.infinet.com/~len>

From owner-qrp-l@Lehigh.EDU Mon Jan 13 18:02:40 1997
From: "Wes Tyler" <tylerw@ozemail.com.au>
Subject: [8691] Crystal Filters for CW.
Message-ID: <199701131019.VAA17001@oznet02.ozemail.com.au>

Thank you to Ed.Pacyna,Larry Wise and Randy Pelt for your input on the 9MHz xtal filters for CW. Have been offered a pair from a local amateur. FB of you chaps to take the time to reply.
Regards and 72/73. wes tyler vk2wes qrp-l # 927, fists # 2231, cw ops.qrp club # 162.
St.Huberts Island, NSW, Aust.

From owner-qrp-1@Lehigh.EDU Mon Jan 13 18:02:40 1997
From: "Michael A. Gipe" <mgipe@reliablemeters.com>
Subject: [8745] DDS
Message-ID: <199701132215.QAA23608@multi13.netcomi.com>

Direct Digital Synthesis is a technique where a sine wave is synthesized by taking the numbers representing a sine wave and feeding them into a Digital-to-Analog converter in sequence to generate a sine wave signal. For communications use, typically this is done with special circuitry that uses either trig function calculation or a look-up table to get the voltage levels associated with any particular phase angle. An adder circuit steps through small phase angle increments. This angle (or time) is used to determine a sine function voltage level, which is then converted to a real voltage with a high-speed D/A converter. The advantages include milliHertz (yes, 0.001 Hz) resolution, instant QSYing, and low phase noise. The stability and accuracy are all directly referenced to a single crystal oscillator without the problems of a phase-locked-loop. The disadvantages include high cost, particularly as the frequency goes up, limited upper frequency, spurs due to truncation and imperfect antialiasing filters.

Many commercial ham rigs use DDS.

The frequency increment possible with DDS is potentially better than an analog VFO whose tuning capacitor will always have some backlash. The stability does not depend on temperature sensitive Rs, Ls, and Cs.

Mike K1MG

> From: William H. Launer <launerb@crl.com>
> To: Low Power Amateur Radio Discussion <qrp-1@Lehigh.EDU>
> Subject: Re: Direct Digital Synthesiser by G4OPE
> Date: Monday, January 13, 1997 12:46 PM
>
> At the risk of being labeled an "OF", here is a question I have to ask:
>
> What are the advantages of using a "Direct Digital Synthesiser" for an
> hf rig in lieu of a well-designed, conventional analog vfo? I've built
> and used frequency synthesizers for vhf rigs, but those bands are, for
> the most part "channelized" (by mutual agreement). On the other hand,
> on hf we often squeeze our signals in between other signals, and need
> continuous frequency resolution. How is this to be accomplished with
> digitally controlled synthesizers?
>
> 72/73 Bill wb0cld
>
> Bill Launer

> St. Charles, MO
> launerb@crl.com
> wb0cld@wb0cld.ampr.org [44.46.66.25]
> qrp-l #279 qrp arco #3551
> Grid Square EM48RT
>
>

From owner-qrp-l@Lehigh.EDU Mon Jan 13 18:02:40 1997
From: "Brian.Buydens@usask.ca" <buydens@duke.usask.ca>
Subject: [8703] Direct Digital Synthesiser by G40PE
Message-ID: <Pine.OSF.3.95.970113085733.13485A-100000@duke.usask.ca>

I was looking at the circuit diagram given in SPRAT and would like to experiment with a scaled down version using the AD7008. Does anyone know where I could get a data sheet for this and the other IC's in the schematic?

Thanks.

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+-----+
| Brian Buydens, Computing Services, University of Saskatchewan |
| email: Brian.Buydens@usask.ca |
| VE5RDV |
+-----+
| A Thought for Christmas: |
|     The only decent thing to do behind someone's back is pat it! |
+-----+
```

From owner-qrp-l@Lehigh.EDU Mon Jan 13 18:02:40 1997
From: Greg Weinfurtner <weinfurtner@ouvaxa.cats.ohiou.edu>
Subject: [8726] Finding Data sheets, Brian VE5RDV
Message-ID: <v03010d00af0035f0f532@[132.235.72.11]>

Brian VE5RDV asked:

>Does anyone
> know where I could get a data sheet for this and the other IC's in
> the schematic?

Brian,

Follow this address for a page of manufacturers, data sheet sources and general electronic info.

<http://ouvaxa.cats.ohiou.edu/~weinfurtner/ECIP.html>

<http://ouvaxa.cats.ohiou.edu/~weinfurtner/ECIP.html>

Got lots of them on there!

73 de NS80

From owner-qrp-1@Lehigh.EDU Mon Jan 13 18:02:40 1997

From: AC6JA@aol.com

Subject: [8661] FOR SALE: KENWOOD TS-450SAT WITH SP-23 SPKR!

Message-ID: <970112200411_1757819203@emout17.mail.aol.com>

hello fellow qrp'ers! i am selling my kenwood ts-450sat with matching sp-23 speaker. excellent condition with all original packing materials, boxes, plastic, etc. am asking \$1000.00 and will ship! please e-mail me directly at AC6JA@AOL.COM or call me direct at 415-573-7720.

the rig is all stock with no optional filters installed. i used the mfj-784b dsp filter which i will also be selling for \$150.00.

let me know if interested.

tnx!

Mike AC6JA

From owner-qrp-1@Lehigh.EDU Mon Jan 13 18:02:40 1997

From: wj5o@juno.com

Subject: [8714] Fort Worth Texas

Message-ID: <19970113.110435.3574.2.WJ50@juno.com>

Howdy ---I messed up my phone number list on the computer and I really need to replace the number for TANDY PRODUCT SUPPORT in Fort Worth, TX So-----I'd really appreciate any help from the list.

73 de WJ50

Bill

" Sparkling City by the Sea"

Corpus Christi, TX

From owner-qrp-1@Lehigh.EDU Mon Jan 13 18:02:40 1997
From: "Doyle, Ron" <doyler@uh2297p01.daytonoh.ncr.com>
Subject: [8696] FOX: I will be the furry one Monday night.
Message-ID: <32DA3A86@sdcwinn.daytonoh.ncr.com>

I am in the dog house once again.:(I fully intended to get the out last week so the folks getting the digest would have some notice. I blew it and humbly apologize to those that miss this announcement.

I will be on Monday night from 8:00pm to 10:00pm EST (Jan. 14, 0100-0300 UTC). The frequency goal will be 7037. I will try to stay between 7035 and 7039. If the band is too crowded and I can't find a hole I will move to 7041-7045. I will do everything I can to find a spot around 7037. I might even try the trick that was mentioned last week used by the Knightlites and slowly 'drift' to the target frequency if possible.

I will be using my trusty QRP+ at a full 5 watts with a 40m loop up 20'. I may use my filter if QRM gets to bad so be prepared to be dead on. I will set my speed to 18wpm. If you come back to be significantly slower I will try to match your speed. I will do my best to copy at whatever speed you use. Dub you can forget that 80wpm stuff!:))

I only worked 21 hunters last month. That was a pretty bad start. This time I hope to do much better. If the conditions hold as the did last night the band should be open for the whole time.

Good Hunting!

72 de Ron, N8VAR

Ron Doyle, N8VAR qrp-1# 263
NCR - Dayton
Work (513) 445-3179
Home (513) 237-0790
<Ronald.Doyle@DaytonOH.NCR.COM>

Practice Random Kindness and Senseless Acts of Beauty

N8VAR TMPS 1996 Qs=003 States=03 Confirmed=03 DX=00
AR NJ MD

From owner-qrp-1@Lehigh.EDU Mon Jan 13 18:02:40 1997

From: Martin Squicciarini <skitch@resuba.com>
Subject: [8697] FS Argosy, HW8
Message-ID: <Pine.LNX.3.91.970113084232.6108B-100000@resuba.com>

Time to make room on the desk for a new rigs so the following are for sale.

TenTec Argosy 525 10-80 meter CW/SSB. The rig has the NR filter as well as the two stage audio and crystal filters. Includes manuals and several articles. \$350 OBO plus shipping and handling

HW-8 15-80 meter QRP rig \$75 OBO plus shipping and handling

72/73
Marty Squicciarini NR3Z
skitch@resuba.com (home)
msquicci@vf.lmms.lmco.com (work)

From owner-qrp-l@Lehigh.EDU Mon Jan 13 18:02:40 1997
From: talljazz@teleport.com (Dan Presley)
Subject: [8685] FS Yaesu FT 102
Message-ID: <v0153052faeff7cd0592e@[206.163.126.74]>

I'll post this here first in case anyone has friends who need a nice QRO rig:) Yaesu FT 102 with FV 102 remote VFO (full scanning & memory features-very deluxe) and matching SP 102 speaker with switchable audio filters. Thouroughly reconditioned and aligned in 1996 by Mal Eiselman the '102 expert (spec sheet on request). Also includes 500 Hz CW filter & RF speech processor (aftermarket kit installed & aligned). For those that care-3 6146s that pump out 200 W (drive control adj to 2-3 watts). Separate recieve antenna capability;switchable RF pre amp;RIT & XIT; noise blanker;adj agc;passband shift, adj notch & audio filter;FM board for 10 mtrs.

This was Yaesu's top rig in the mid 80's, and is still a better performer than many on the market.

\$850 or trade for comparable Ten Tech (I don't need the power!)
Dan N7CQR e-mail talljazz@teleport.com or (503) 232-5346

From owner-qrp-l@Lehigh.EDU Mon Jan 13 18:02:40 1997
From: Martin Squicciarini <skitch@resuba.com>

Subject: [8709] FS: Argosy, HW8
Message-ID: <Pine.LNX.3.91.970113113313.6108J-100000@resuba.com>

The HW8 has been sold

Several people have asked about the Argosy. I will post all the details tonight/tomorrow such as what filters are installed etc.

72/73
Marty Squicciarini NR3Z
skitch@resuba.com (home)
msquicci@vf.lmms.lmco.com (work)

From owner-qrp-1@Lehigh.EDU Mon Jan 13 18:02:40 1997
From: Vic Rosenthal <rakefet@rakefet.com>
Subject: [8713] FS: TS850S
Message-ID: <32DA68DA.1822@rakefet.com>

I know it isn't a QRP rig, but it _does_ adjust easily to 5 watts. And it has good (not TenTec quality, but good) QSK. My friend Saul, WB6EHH is selling his Kenwood TS850S with built-in antenna tuner and Kenwood hand mike for \$1090. It has just the stock filters, and looks to me to be very clean (but it's not my radio, no guarantees, etc.)

This is a good price, in my opinion. Anyone who's interested please send me email and I will give you his phone number.

Vic K2VCO

From owner-qrp-1@Lehigh.EDU Mon Jan 13 18:02:40 1997
From: W1LP@aol.com
Subject: [8705] FS: Wilderness Norcal 40A
Message-ID: <970113101026_1891263592@emout14.mail.aol.com>

HI Gang,

selling my Norcal 40A.....gg to raise some funds to build a Sierra...

Excellent cond., works great \$115 shipped conus

73, Clint / W1LP

From owner-qrp-l@Lehigh.EDU Mon Jan 13 18:02:40 1997
From: Ed Tanton <n4xy@avana.net>
Subject: [8725] FSFD Georgia N4XY Log
Message-ID: <3.0.32.19970113133139.00953a80@tiger.avana.net>

The following is my log from my FSFD evening... I was running my OMNI VI @ 5W output, usually into my GAP DX Voyager but alternatively to my G5RV @ 35 feet. The noise level was terrible that night, with the WWV prop listed at sf75, a4, k2 respectively. It should not have been as bad as it was. Neither antenna was impressive that night, and the vertical on my roof I had hoped to get up was not up yet. Perhaps next year I'll have it AND the loop I want to do.

TIME (UTC)	Callsign	RST	Sent	State	Power (His)	Freq (MHz)
0003Z	AE4EW		579		VA	
	3.561					
0013Z	AC5AM		559		LA	3.5W
	3.561					
0017Z	W2DP	449		NJ	5W	
	3.566					
0021Z	WA1QVM	449		MA		3.561
0026Z	WD8RIF	589		OH	5W	
	3.561					
0305Z	N2VPK		589		NY	4W
	7.040					
0320Z	W0RW	569		CO	2W	
	7.040					
0324Z	VE3JC		569		ONT	5W
	7.040					
0341Z	W7KXB		339		AZ	4W
	7.040					
0508Z	N4IM	569		TX	5W	
	7.041					
0513Z	K7MW	569		WA		7.041
0525Z	KJ5VW		339		TX	
	7.040					

72/73

Ed Tanton N4XY EMAIL: n4xy@avana.net TEL: (770)579-3933 V/MBX/FAX
189 Pioneer Trail
Marietta, GA 30068-3466

QRP-ARCI#7663 G-QRP#6779 OK-QRP#172 QRP-L#758 AdvRC#140
NORCAL#1779 NCDXF SEDXC

Life Member: ARRL AMSAT IDRA INDEXA QCWA
URL: Coming Sooner or Later

"Think you can, think you can't: either way you're right!" Henry Ford

From owner-qrp-1@Lehigh.EDU Mon Jan 13 18:02:40 1997
From: Randy Foltz <rfoltz@wsunix.wsu.edu>
Subject: [8722] FSFD Idaho Report
Message-ID: <Pine.OSF.3.95.970113100210.13110A-100000@unicorn.it.wsu.edu>

Sunday Jan. 12 was the Idaho day for FSFS. I was on in 4 blocks and made a total of 36 QSOs.

40M morning - 12 QSO from the states of CA, NV, AZ, WA, IA, and the province of AB. Most were with members of QRP-L, but there were some from QRO folks, too. I think the CQ WAS was a good idea. The contact from AB said that he saw I was on via a packet cluster. He also said it had been -50C the night before. Everyone's signals were fairly strong.

20M mid day - 7 QSOs from the states of CA, MA, AL, and NJ. Fewer QRP-L members here. Contacts were more difficult than on 40M morning.

40M early evening - 14 QSOs from the states of CA, AZ, NJ, NC, LA, NM, TX, WI, and AK. I had decent rates until 0100. Lots of activity until then and I had to move around a bit to keep from being covered up. For the last 45 minutes, I could hear no replies. Just before 0200, I got a very strong call from AL7NM, AK. We were able to exchange info before falling from 569 to unreadable in less than 2 minutes. This was a nice touch to end the 40M session.

80M late evening - 3 QSOs all from AZ. I didn't hear much and the reports from AZ indicated that they were really straining to hear me.

I picked up 2 new states (NC and AL) and got another chance for a QSL from LA. I hope that everyone had as much fun as I did.

Thanks again to Jim for organizing this activity.

72,
Randy
AB7TK ARCI QRP-L NORCAL NWQRP ARS
Moscow, ID

From owner-qrp-1@Lehigh.EDU Mon Jan 13 18:02:40 1997
From: "Dan Tayloe-P26412" <Dan_Tayloe-P26412@email.mot.com>
Subject: [8715] FSFD ND!
Message-ID: <M28848092.008.yhew8.1.970113164951Z.CC-MAIL*/OU=SATCG/OU=AZBH/
PRMD=MOT/ADMD=MOT/C=US/@MHS>

Date: Fri, 10 Jan 1997 03:38:01 +0000
From: Jim/NOUR <LAGESON@worldnet.att.net>
To: qrp-1@Lehigh.EDU
Subject: [8474] NORTH DAKOTA EXPEDITION
Message-ID: <19970110033800.AAA21095@LOCALNAME>
Mime-Version: 1.0
Content-Type: text/plain; charset="us-ascii"

>When I signed up to represent MN for FSFD I said that I could be
>talked into traveling to ND if there were no takers.

>If someone else would like to take the trip be my quest, but if its
>going to be up to me i can try and do it.

>Talk to me.....

>Jim, NOUR..ex WA0RPI

You have my vote! I would love to get a AZ QRP - ND QRP QSL!

- Dan Tayloe, KK7BD, Phoenix, AZ, QRP1 # 696

From owner-qrp-1@Lehigh.EDU Mon Jan 13 18:02:40 1997
From: Makoto Minowa <minowa@icepp.s.u-tokyo.ac.jp>
Subject: [8687] HB: Small Loop Antenna made of PCB stock
Message-ID: <199701130821.RAA18957@yanagi.icepp.s.u-tokyo.ac.jp>

HB Small loop antennas are usually made of rigid copper water pipe
with 1/2" to 2" diameter.

I built my own small loop antenna with printed circuit board stock.
It is fairly lighter, much easier to solder and cheaper than the copper
tube. Copper foil of the PCB is very thin. Therefore, one might think
that the ohmic loss causes inefficiency of the antenna. However, you
should remember so called "skin effect" of HF current. HF current

tends to flow only in the thin surface part of the conducting material. So the thin foil does not necessarily cause more ohmic loss than thick conductor like copper tube. The deep part of the conductor has almost nothing to do with the conduction of HF current. Thin conductor with large surface area may work even better.

The skin effect is characterized by a quantity called "skin depth". The HF current at the skin depth below the surface of the conductor is $1/2.718$ of the current flowing at the surface. The skin depth of copper is about 21 microns at 10 MHz. Very thin. The skin depth decreases as the square root of the frequency. If the copper foil is a few times thicker than the skin depth, it is practically thick enough for the HF current of the specified frequency.

I got ten pieces of surplus PCB stock with copper foil on both sides at a price of 200 yen (approximately US \$2) at a surplus shop in Tokyo. Each board is about 45 cm long and 7 cm wide. The copper foil is about 50 microns thick. $50/21$ is about 2.4. Not so bad for 10 MHz and above although not ideal. Seven pieces of PCB are connected together to form about 300 cm-long and 7 cm-wide strip, and bent into a circular shape for the loop of about 1 m diameter. Each joint is made by overlapping about 2 cm of each board and the adjacent board. Each overlapping part is tightly connected with two screws. To make a good electric contact at the joint, self-adhesive copper tape is stuck and soldered along the ends of the boards on both sides of each joint.

The rest of the construction is not much different from the ordinary small loop antennas. For the details of constructing small loop antennas, please refer to nice article by Bill Jones - KD7S entitled "Building High Performance, Small Loop Antennas" posted to qrp-l by himself on 17 Dec 1996, posting number [6633].

Results. The Loop was installed horizontally near a window of my apartment at the ground floor of a five-story building. The loop is only 3 m high above the ground and 1.3 m apart from the wall. SWR is 1.5 or less for 10 MHz and 14 MHz. In several months after the installation, I worked:

many JA stations ranging from north end of JA, Hokkaido to south end, Okinawa (Ryuku) and also one Korean station with HB 3-watt CW XCVR on 10 MHz and stations of far east countries like Korea, China, far-eastern Russia, Taiwan and Hongkong with HB 3-watt CW XCVR on 14 MHz. (my QTH is Chiba, 30 km to the east of Tokyo)

HB is fun.

7N3WVM

MINOWA, Makoto

QRP-L member #572.

A bigot with no Yaesu, no Kenwood and no ICOM in his shack.

From owner-qrp-l@Lehigh.EDU Mon Jan 13 18:02:40 1997

From: SNickrand@aol.com

Subject: [8665] HELP w/Gary Breed Xcvt (A&A)No Xmit

Message-ID: <970112204812_272578384@emout19.mail.aol.com>

Got an A&A Eng. 20m transciever based on the Gary Breed article in QST 12/90-1/91 (\$20 at hamfest). Found & replaced burnt cap in output filter and replaced all output filter caps just to be sure. Rewound final toriod xformer. Replaced driver and PA transistor. Nothing I have done has corrected the problem or even changed the symptoms, which are.

1. No power output
2. Two sidetones- one which is heard in response to keying, the other which is heard for as long as the transmit relay is activated.
3. Verified that the keying transistor is working, normal pin voltages around the NE602, and a 14Mhz signal through the signal train to the base of the PA.
4. By my guess its a blown PA but I've tried two of them--same results.

Any suggestions?

From owner-qrp-l@Lehigh.EDU Mon Jan 13 18:02:40 1997

From: adams@chuck.dallas.sgi.com (chuck adams)

Subject: [8678] Hey

Message-ID: <199701130454.EAA05249@chuck.dallas.sgi.com>

Gang,

If I disappear for 24 hours it's because I messed it up.
:-)

Going to switch systems at work, i.e. replace one system with another. Losing my \$200K system for a cheaper one. They need the big one at another location for a classroom.

This is tricky, so here goes.

Oh, I paid extra duty to get #1 NC38S and will report Tues night on its assembly, assuming that the ice and snow doesn't

hold up FED-X. :-) Film at 11.

Also teaching a class so this makes it all the more difficult.
Didn't want any rumors starting on my demise. I don't expect
any mail problems but you never know.

dit dit es qrx

SIG

Chuck Adams K5FO adams@sgi.com

From owner-qrp-l@Lehigh.EDU Mon Jan 13 18:02:40 1997

From: Frank G3YCC <g3ycc@gqrpclub.demon.co.uk>

Subject: [8724] How to make mobile whips!

Message-ID: <853179570.620520.0@gqrpclub.demon.co.uk>

Want to make a mobile whip? Worried you don't know how to tune 'em? Take
heart, G3YCC is to hand...

Check out my antenna page on the Demon web site and all is revealed.

So there is another bit from me, now how about something for me to include
from YOU? Made something, tell me about it, got a piccy, send it of your
new rig, kit, key, antenna, wife (I jest!). Maybe a tip from you for
beginners. You wille PAID for any and every contribution! Not in cash, in
thanks from beginners and the hungry bunch of homebrewers everywhere!
Have fun.

-----72/3 de Frank G3YCC -----

GQRP CLUB 042

QRP WEB SITES: <http://www.gqrpclub.demon.co.uk>

<http://www.geocities.com/CapeCanaveral/5179>

From owner-qrp-l@Lehigh.EDU Mon Jan 13 18:02:40 1997

From: "Toshiyuki Ando" <andot@usa.net>

Subject: [8660] I made JA/W by 500mW on 40m!

Message-ID: <loth-Bama4Y2445@netaddress.usa.net>

Hi everyone,

Any folks tried to call JA stations last weekend?

We had Japan International DX contest CW LF(1.9-7MHz) and

I jumped into 40m band with my cute, little rig P7DX(500mW out,
Mizuho-made). I could get:

Jan 11	1612 GMT	N7EX
	1617 GMT	KD6WW
	1633 GMT	W7OM

Although they asked me several times to confirm my callsign and the signal reports I received were 599 as usual in the contest, my 500mW signal from V-dipole (10 meters above the ground) reached U.S. westcoast!

Happy QRP DXing! 72

JK1APL

Toshi Ando
Tokyo, Japan

From owner-qrp-l@Lehigh.EDU Mon Jan 13 18:02:40 1997
From: "Brian K. Shiratsuki" <bks@bks.com>
Subject: [8672] ISPs
Message-ID: <3.0.32.19970112183844.0092b280@bks.com>

On Sun, 12 Jan 1997, Joseph L. Hartmann, Jr. wrote:

>You mean not everyone on this list is using an independent,
>local-call , \$20/ month with unlimited time, ISP ?

> W H Y N O T ?

AOL is unusual in that they provide several email addresses for one monthly fee. Also (as we all know, since we've received media several times) AOL provides software which usually works out-of-the-box. Though I have never used them, I have recommended pacbell to friends on the grounds that as the phone company, they could easily add line capacity. They would also have deep enough pockets to add compute or storage capacity when needed.

The independent providers cannot always adjust to demands quickly either (in the case of mine, because they were waiting for the phone company!). However, the reason I use one is that they provide domain registration and webpage hosting economically, and offered ISDN access as a product before pacbell.

In the past, when I disputed charges with my credit card companies on the grounds of bad service (ie, a company not performing as agreed), they have supported my claim. The process requires a written notice, and the companies do not charge interest on amounts in dispute.

brian
n6sxt

From owner-qrp-l@Lehigh.EDU Mon Jan 13 18:02:40 1997
From: "Len W. Touth" <len@infinet.com>
Subject: [8716] K8IDN Builders Report - OHR-100
Message-ID: <199701131750.MAA11720@mail1.infinet.com>

Hi Gang:

The most recent builders report has been entered on the CQrp web pages.

This month, Steve (K8IDN) gives us a look at the OHR-100.

If interested <http://www.infinet.com/~len>

follow the links to CQrp es then Builders Report.

Best 72/3

Len

KG8SF

len@infinet.com kg8sf@key.com

QRP-L # 841	CQrp # 2	ARCI # 9025	FISTS # 2134
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CHARTER MEMBER - THE COLUMBUS QRP CLUB - CQrp

Web Page: <http://www.infinet.com/~len>

From owner-qrp-l@Lehigh.EDU Mon Jan 13 18:02:40 1997
From: KC7FYS@aol.com
Subject: [8690] kc7fys@sa2.so-net.or.jp
Message-ID: <970113044751_440609328@emout16.mail.aol.com>

kc7fys@sa2.so-net.or.jp

Hello, This is my new email address, in case I sent it wrong, or didn't send it to you at all. The best thing is if you send me a mail to confirm it, and

to get your name in the new address book more easily. Anyway, this is my new email address.

Jonathan

PS. Everything's fine.

From owner-qrp-1@Lehigh.EDU Mon Jan 13 18:02:40 1997

From: 13-Jan-1997 1134 <randolph@asic.ENET.dec.com>

Subject: [8710] N100Q RX #6: more mixer tradeoffs, noise, dynamic range

Message-ID: <9701131637.AA16325@us3rmc.pa.dec.com>

No. 6

Mixers not only distort the incoming signals, but add some noise to them as well. Distortion is a regular change in the shape of the sinusoidal waveform, an adding of harmonic components, but noise is random. It amounts to continuous random changes of the amplitude and phase of the waveform. All circuits add noise. The only way to avoid it is to cool the circuits to absolute zero, as most of the noise has its origin in the thermal energy of the components.

Noise is rather different than distortion, as the amount of noise added by a particular circuit isn't necessarily linked to the gain of the circuit. It's helpful to think of the added noise as a fixed chunk of noise power. A weak but clean incoming signal will be similar in strength to the added noise power; the signal-to-noise ratio will be low at the output. A strong, clean signal will be much more powerful than the added noise power; the signal-to-noise will be high.

A circuit will, however, amplify or attenuate any noise already on the input signal according to the gain. If the incoming signal is very noisy, the small chunk of extra noise added by the circuit will be covered up by that input noise. If the incoming signal is very quiet, the extra noise added by the circuit will be very noticeable when the signal is small. Once a signal is amplified up out of the noise floor, we needn't be fussy about adding a small extra chunk of noise to it, as the signal will totally overwhelm that little bit of noise. Only the stages before the first gain stage need be painstaking about noise.

Again, all circuits add noise, even passive ones. Many circuits, for instance, our antenna, can be modeled as a resistor. The noise power in a resistor is:

-23

$P_n = kTB$, where k is Boltzmann's constant, 1.38×10^{-23} W/K.
 T is the temperature in Kelvin, about 290K at room temp.

B is the bandwidth we're interested in.

Note that the noise depends only on the temperature. Hotter circuits add more noise. As a baseline, any resistor at room temperature has a noise power of -174 dBm in a 1 Hz bandwidth. Converting to typical receiver bandwidths:

CW bandwidth noise	= -174 + 10 log 500	where 10 log x is the
	= -174 + 27 = -147 dBm	conversion from ratio x
SSB bandwidth noise	= -174 + 10 log 2500	to dB. This can also be
	= -174 + 34 = -140 dBm	looked up in a table of
		dB vs power ratio.

So the noise power on a room temperature antenna, at a bandwidth of 500 and 2500 Hz, is -147 dBm and -140 dBm, respectively. This amount of noise is always present on the antenna, and sets a limit on receiver performance. Signals weaker than about -140 dBm (about 0.03 uV peak in a 50 ohm antenna) will be lost in the noise of the antenna. A real receiver actually adds some noise to this, so the noise floor is somewhat higher, maybe -130 dBm for an HF receiver. This is known as the minimum discernable signal, or MDS. The difference between the natural noise and the MDS is the noise figure, or NF, of the receiver.

NF is a convenient way of specifying how much noise is added by a particular circuit. It is just the ratio signal-to-noise-in/signal-to-noise-out, called the noise factor, converted to decibels. A signal-to-noise ratio is signal power/noise power, so the overall definition of noise figure is

$$NF = 10 \log \left(\frac{P_{sig_in} / P_{noise_in}}{P_{sig_out} / P_{noise_out}} \right)$$

Note that this equation has no meaning if we don't specify what the input noise is. Since all circuits add noise, there is always input noise, -174 dBm or more in a 1 Hz bandwidth, as above. The NF is generally specified in just that way, with the input noise being that from a 290K resistor. An ideal circuit would have a NF of zero, adding no noise, only gain or loss, to the noise input.

As an example, let's say our circuit has only a room-temperature resistor at the input, zero gain, and a 5 dB NF, a ratio of about 3.2:1. The noise power at the output is $P_{noise_in} \times 3.2$, and the signal power is just P_{sig_in} . If the circuit had gain, the noise power at the output would be $P_{noise_in} \times 3.2 \times \text{gain}$, and the signal power would be $P_{sig_in} \times \text{gain}$. Either way, signal-to-noise-in/signal-to-noise-out is about 3.2, so NF is about 5 dB. Since all circuits add some noise, the NF is always greater than 0.

The noise added by a particular mixer depends on the design of the mixer. Active mixers have noise figures in the 1 to 10 dB range, depending on the

circuit type and the active devices used. Diodes add little noise, but they do have insertion loss. Such attenuating circuits are adequately modeled as a resistor for noise purposes, and as such add a constant amount of noise, as above. The noise in this resistor model is the same as that used when specifying NF, -174 dBm, but the signal is attenuated. The signal-to-noise ratio at the input of the combined circuit is therefore degraded by the amount of attenuation, and the circuit adds its attenuation directly to the NF of the following circuits. Hence, our diode-ring mixer adds 6-7 dB to the NF of the IF amplifier.

We can get an estimate of the receiver's overall NF by similarly analyzing the circuitry between the mixer and the antenna. Again, there will be only a bandpass filter with insertion loss (and additional NF) of around 1 dB. The NF of our receiver will be the NF of the IF amp + 7 dB + 1 dB. Assuming a 5 dB NF for the amp, the receiver NF will be about 13 dB. The receiver's MDS can now be estimated:

-147 dBm + 13 dB = -134 dBm 500 Hz bandwidth
 -140 dBm + 13 dB = -127 dBm 2500 Hz bandwidth

We have, in these last two articles, established two limits on the receiver's performance. At the strong signal end, IMD in the front-end components sets the limit on how big a signal we can copy without distortion. At the weak signal end, noise in the front end limits how small a signal we can copy without drowning in the noise. This clean-signal spread is called the dynamic range of the receiver. We can put a number on it:

DR = (signal level where IMD products rise above front-end noise) - MDS

In article #5, we saw that IMD products at an input signal of -30 dBm, one microwatt, were about 153 dB below the IPI of +21 dBm, or -132 dBm. This is similar to the MDS we calculated above, so this is approximately the point at which the products will become audible. With some algebraic manipulation of the equations in that article, we can get a formula for the exact signal level:

$$\text{sig} = \frac{\text{MDS} + 2 \text{ IPI}}{3}$$

So the signal levels that will cause audible IMD are:

$(-134 + 2 \times 21) / 3 = -31 \text{ dBm}$ 500 Hz bandwidth
 $(-127 + 2 \times 21) / 3 = -28 \text{ dBm}$ 2500 Hz bandwidth

and the DR is:

$(-31) - (-134) = 103 \text{ dB}$ 500 Hz bandwidth

$(-28) - (-127) = 99 \text{ dB}$ 2500 Hz bandwidth

This being an HF receiver, some sensitivity (i.e. low NF) was sacrificed to maximize DR. Atmospheric noise will generally drown the noise of the receiver's front end at these freqs. We could add a preamp to boost sensitivity if we don't mind losing some of the mixer's nice, high IPI. A +10 dB preamp would reduce the +21 dBm IPI to +11 dBm. Assuming a preamp NF of 5 dB, MDS would be $-140 \text{ dBm} + 5 \text{ dB} = -135 \text{ dBm}$, an 8 dB increase in sensitivity. The signal level that will cause IMD is now $(-135 + 2 \times 11) / 3 = -38 \text{ dBm}$, and the DR is $(-38) - (-135) = 97 \text{ dB}$, a loss of only 2 dB in DR. This is a reasonable tradeoff, and a switchable preamp would likely be a useful addition to the receiver. IMD in the preamp itself would then become a limiting factor in the RX performance, and should be carefully handled.

These N100Q RX postings are intended to be a learning exercise for the QRP-L folks, so if you have questions or comments, post them! How's the level of detail? Too much or too little?

```
=====
Tom Randolph  N100Q  NE-QRP 419  QRP-L 87  ARRL      randolph@asic.enet.dec.com
=====
```

From owner-qrp-l@Lehigh.EDU Mon Jan 13 18:02:40 1997
From: adams@chuck.dallas.sgi.com (Chuck Adams)
Subject: [8694] NC38S
Message-ID: <199701131256.EAA00788@chuck.dallas.sgi.com>

Gang,

Didn't mean to imply the wrong thing, so let me straighten it out right now. When Doug posted the price the check was in the mail. I did get the first check to NorCal for the NC38S #1 and #2. I'm an easy target for parting with my money on new rigs. :-)

Slow on the draw for the TenTec though so I'm way down in the pile on that one.

Well, looks like my system change came out OK. Sometimes you do get lucky.

In the meantime start peaking the receivers for 30M and with the cold you can now go and put up the new antenna, clean off the workbench, put

a new lock on the door so the 'critters' won't
upset 'work in progress'. Looks like 30M is
gonna get crowded here in a few months.

I'll have pictures with the digital camera and
will ship them over to Jerry for posting on the
NorCal home page, room permitting etc.

dit dit

SIG

Chuck Adams K5FO adams@sgi.com

From owner-qrp-1@Lehigh.EDU Mon Jan 13 18:02:40 1997
From: mvjf@mvubr.mv.lucent.com (James M Fitton +1 508 960 2577)
Subject: [8702] ND
Message-ID: <199701131507.KAA28769@alig1.firewall.lucent.com>

While in CA, I was surprised to contact Ade Weiss
operating my NC-40 from my hotel room.

He said N.D. is an RF "Black Hole" and he very rarely
makes contact with the other 47 (contiguous) states.

Guess this makes ND all the rarer !

GL * 72 W1FMR

From owner-qrp-1@Lehigh.EDU Mon Jan 13 18:02:40 1997
From: wj50@juno.com
Subject: [8667] Need Audio Chip
Message-ID: <19970112.201848.3598.5.WJ50@juno.com>

Howdy,

I could sure use some help in locating an audio chip...Need a source or
direct substitution.

SN76007N 14 pin DIP

tnx

de WJ50 Bill

QRP 10 meters only

Corpus Christi, TX

From owner-qrp-1@Lehigh.EDU Mon Jan 13 18:02:40 1997
From: Rich Arland <qrp-rich@postoffice.worldnet.att.net>
Subject: [8677] New e-mail address for K7SZ
Message-ID: <19970113043836.AAA18847@LOCALNAME>

Gang:

Juno strikes again (for about the 6th time!).

My Juno software blew up and when I tried to reload from diskette, I found that the diskette was corrupted. NDD did no good at restoring the diskette, so I called Juno and was told that it would be 1 to 3 WEEKS(!) before I could get new software.

In the mean time, I have moved all operations for e-mail over to ATT Worldnet. This address will be good until further notice.

Tnx for the bandwidth.

73 rich K7SZ

From owner-qrp-1@Lehigh.EDU Mon Jan 13 18:02:40 1997
From: "Jeff M. Gold" <JMG@tntech.edu>
Subject: [8700] NW8020-Dan's version
Message-ID: <01IE5P2IYAJM8WWIKR@tntech.edu>

Howdi All,

Well had some time this weekend so worked on the Dan's version of the NW8020 kit.

I really enjoyed building this kit. The directions were quite clear and I like the build a section and test it. The main board was really nice to solder and unsolder. Most of the parts were good quality. then again some of the unmarked capacitors and resistors were a bit strange.. glad I have a meter for these situations. I was also disappointed.. about 8 missing parts and one page missing from the directions.. didn't enjoy that.. missing all the voltage regulators, some caps and resistors, and a diode. had most and only had to buy a couple of diodes. with help from this group (and thanks .. lost the email addresses for two people who sent me pages.. but really appreciate the help) was able to

overcome the missing page.

All sections came right up without a hitch till I got to the transmitter section. I couldn't get any power out. This bothered me.. I REALLY took my time and because of the parts in the kit, checked the values of all resistors and caps before I stuffed them. Then I took my high powered magnifying glass and went over the bottom of the board a few times and took care of anything that didn't look really good on the bottom of the board.

I left it alone for the evening. I got up in the morning with a premonition. I carefully checked the variable resistor for power output. the holes in the board were the wrong size for the component.. so wanted to check all connections. What I found is that when they made the board they added an extra ground connection on one leg of the resistor to ground. I cut the connection (wasn't real easy) and the rig put out 5 watts and tuned correctly.

The next problem I encountered was the audio filter. The board for it was about my least favorite I have built. I hooked it up and it seemed to filter well, but when I keyed the transmitter it sent the speaker into harmonic hell. It ended up blowing the small 8 ohm speaker after a few tries. When I switched off the filter, the sidetone was fine. Yesterday, for the heck of it, I replaced the two resistors to change the center frequency.. that cured most of the problem.

I got most of the case drilled (had a Chuck Adams metal case.. perfect size), have to make a rectangle cut for the filter and a couple more wholes..then finish tuning up the transmitter. The receiver seems to work fine.

Well.. I am glad I purchased the kit.. but for those that don't like to hassle with problems, or haven't built that much, suggest getting the kit directly from the designer.

72

Jeff, AC4HF

From owner-qrp-1@Lehigh.EDU Mon Jan 13 18:02:40 1997
From: jeffa@ix.netcom.com (Jeff Anderson)
Subject: [8698] qrp-1 in digest form?
Message-ID: <199701131350.FAA25882@dfw-ix10.ix.netcom.com>

Does anyone know if it's possible to receive qrp-1 in digest form? I

just checked the 'listserv' set of instructions, and I didn't see anything that resembled it.

Thanks,

- Jeff

From owner-qrp-l@Lehigh.EDU Mon Jan 13 18:02:40 1997
From: "Thomas J. Whalen" <whalen@swcp.com>
Subject: [8728] SST?
Message-ID: <Pine.SUN.3.91.970113120613.12007A-100000@kitsune.swcp.com>

I just sent off for my "38 Special" and my subscription to NorCal. Since I missed the "49er" deal, Im wondering when to expect the SST offering? During the ARCI contest I worked 7 stations just messing around and the loudest was W6MMA VERN. But, having a 6 element quad would sure does help when using 2 watts! 72 Tom WB5QYT

From owner-qrp-l@Lehigh.EDU Mon Jan 13 18:02:40 1997
From: Bob Kellogg <ae4ic@nr.infi.net>
Subject: [8679] St. Louis Tuner Mod and hints
Message-ID: <199701130457.XAA15880@mh004.infi.net>

Hi Gang,

Want to substantially improve the efficiency of your St. Louis tuner? Here is a simple modification and tuning technique that will do it.

1. Check to be sure that your tuner is wired so that the largest sections of the variable capacitors are in use when switch 3, the capacitance switch, is in the low position. This means, of course, that the smaller sections are added when switch 3 is in it's high position. If your tuner is not wired this way, make the necessary wiring changes.
2. Sitting in front of the tuner in the operating position, locate the two solder tabs on the top of the left capacitor. Bend the tab on the small (stator) section down slightly. This is to provide clearance so the solder joint doesn't short against the case top when it is reinstalled.
3. Solder one end of a 100pF silver mica or similar capacitor to the tab on the small section. Position the 100pF capacitor between the two variable capacitors. Check to be sure the joint just soldered will clear the top when it is installed.

4. There is a short wire at the rear of the variable capacitors which connects the capacitor frames together. Solder the second end of the 100pF capacitor to this wire.

That's it!

The St. Louis tuner will often tune an antenna with either of two different inductance settings. Efficiency tests show that the smaller inductance setting will reduce tuner losses by as much as 25% or more. So, always set the 12 position inductance switch for the least inductance possible. The above mod enables the user to tune with one switch position less inductance in many cases.

This mod also helps make tuning smoother, reducing the sharp nulls in some cases.

CUL,

Bob Kellogg, AE4IC, Greensboro, NC
Probably, but not nececelery. - Benny Hill

From owner-qrp-1@Lehigh.EDU Mon Jan 13 18:02:40 1997
From: Mike Czuhajewski <wa8mcq@u1.abs.net>
Subject: [8670] T30-6 cores all gone
Message-ID: <Pine.BSI.3.93.970112213552.14607K-100000@u1.abs.net>

The 300 T30-6 cores went fast; 20 people made the grade and 7 more got rejection slips. I learned my lesson; next time I'll make it 10 for a buck instead of 15!

73 and Queue Our Pea DE WA8MCQ wa8mcq@abs.net

From owner-qrp-1@Lehigh.EDU Mon Jan 13 18:02:40 1997
From: jerryh@webzone.net (Jerry Henshaw)
Subject: [8735] Tulsa QRP Group ????
Message-ID: <01BC015F.BB4C6C40@pm2.ppp44.webzone.net>

This is my second plea to the Tulsa, Ok area hams to start a QRP group in Green Country. I received NO REPLIES to my last posting. I enjoyed going to the Okalahoma City meeting and came very close to driving to Dallas to the NORTEX meeting last week.... out of town guests prevented that trip.

I know that I can not be the only QRPer in Tulsa!!!! Come on guys
come out of the closet and give me an email expressing your
interest!!!

Lonely in Tulsa,

73's

Jerry Henshaw
KR5L / QRP
jerryh@webzone.net

ARCI 9165, QRP-L 847, NORCAL 1999
49er, ARK 20, Wilderness Sierra, (Soon 38 Special)

From owner-qrp-l@Lehigh.EDU Mon Jan 13 18:02:40 1997
From: Patrick McVey <mcvey@kingman.com>
Subject: [8744] Tuning range on Radio Shack shortwave
Message-ID: <199701132209.PAA03907@king.serv.kingman.com>

I dug out an old Radio Shack project kit for shortwave frequencies. The
tuner has a range from 6mhz to 8mhz. How can I modify the tuner for Novice
CW at 40 meter? I'm more interested in the principle of the mod than the
how-to. When I try to tune, there's about a 1/16" play for the band.
Patrick McVey
(520) 757-8111, x227
Kingman, Arizona

From owner-qrp-l@Lehigh.EDU Mon Jan 13 18:02:40 1997
From: Robert Penneys <radio@UDe1.Edu>
Subject: [8671] Wanted: 40m or so xcvr
Message-ID: <199701130249.VAA07261@copland.udel.edu>

Looking for a small/portable CW xcvr, preferably 40, then 20 or 30.
Tnx, Bob N9GG Frankford Radio Club

Finally - the Delaware QSO Party!!

Sponsored by the First State Amateur Radio Club

- Who - All radio amateurs in and out of Delaware
- When - First full weekend in February (1997: Feb 1 & 2)
Saturday: 1700Z (1200 EST) until 0500Z Sunday (2400 EST Sat.)
Sunday: 1300Z (0800 EST) until 0100Z (2000 EST Sun.)
- Where - Suggested frequencies are:
- | Phone | CW |
|--------|--------|
| 1.860 | 1.825 |
| 3.960 | 3.550 |
| 7.260 | 7.050 |
| 14.260 | 14.050 |
| 21.360 | 21.050 |
| 28.360 | 28.050 |
- Novice and Technician freqs: 25 kHz above sub-band edge
- This does not imply that you may not work any bands you choose, such as VHF/UHF/SHF. However, as there is only one entry class, all logs will be judged equally.
- How - Work stations once per band and mode.
Exchange signal report and QTH (county for Delaware stations; state/province/DXCC country for others).
- Scoring - There is ONE CLASS for all stations.
Count ONE POINT per PHONE QSO.
Count TWO POINTS per CW/RTTY/Digital QSO.
Multipliers/special event stations: NONE.
- Awards - Certificates will be awarded in the following categories:
Within Delaware: first, second and third highest score.
Within each Delaware county: highest score.
Others: first, second and third highest scores.
Further prizes and certificates may be awarded, depending upon participation and merit.
Certificates and prizes courtesy of Ham Radio Outlet, Delaware.
- Submissions-
There are no requirements for dupe sheets, and no forms nor software offered especially for this contest.

Logs must show date, time, band, mode, station worked, exchange send and received, entrant's call and QTH, and total summary of QSOs and points. You are assumed to be observing the rules of amateur radio and contesting, so that no such written statement is required.

Mail entries within 30 days to: Contest Chairman
FSARC, Inc.
P.O. Box 1050
Newark, DE 19715

Include SASE for results.

E-mail logs with adequate summaries, and any other comment or inquiry to:

radio@udel.edu

Results will be posted through 3830@contesting.com, and e-mailed to NCJ and CQ.

Thanks and LET'S GO DELAWARE!!

From owner-qrp-1@Lehigh.EDU Mon Jan 13 18:02:40 1997
From: Ken Newman N2CQ <103464.1355@CompuServe.COM>
Subject: [8718] WAS-QRP
Message-ID: <970113175639_103464.1355_IHI48-1@CompuServe.COM>

----- Forwarded Message -----

From: "Sapko, Eileen", INTERNET:esapko@arrl.org
TO: Ken Newman N2CQ, 103464,1355
DATE: 01/13/97 10:34

RE: WAS-QRP

Sender: esapko@arrl.org
Received: from mgate.arrl.org (mgate.arrl.org [205.217.201.2]) by arl-
img-6.compuserve.com (8.6.10/5.950515)
id KAA27039; Mon, 13 Jan 1997 10:27:32 -0500
Received: from smtp_gw by mgate.arrl.org with smtp
(Smail3.1.29.1 #9) id m0vj0IL-0004olC; Mon, 13 Jan 97 10:27 EST
Message-Id: <m0vj0IL-0004olC@mgate.arrl.org>
From owner-qrp-1@Lehigh.EDU Mon Jan 13 18:02:40 1997

From: JUKKA AHLGREN <JUKKAA@jypoly.fi>
Subject: [8689] Where to get kits for building contest?
Message-ID: <s2da1f05.090@jypoly.fi>

Help needed!

We've had an idea of arranging a transceiver building contest in the Finnish (OH) Summer Camp next summer. The winner is the one who is the fastest builder and makes the first qso, of course.

Now we need a kit supplier.
The rig should be very simple (like Pixie 2) and easy to build.

Jukka OH6SC/OH8NGF
jukkaa@jypoly.fi

From owner-qrp-1@Lehigh.EDU Mon Jan 13 18:02:40 1997
From: ALK0FRP@aol.com
Subject: [8683] winter fire side SSB
Message-ID: <970113003105_1657191193@emout16.mail.aol.com>

gang

very quiet for the ssb sprint.
I was on 20 meters for about an hour and worked only 30 stations in 17 states, 2 on 40 meters in two states. 15 meters was dead here in CO. The nets on 20 are a real tough< no Impossible , Shriners, Amsat, Bible, Horseback riding nets , coin collecting nets , volley ball, hair nets plus stations talking in some foreign language 40 over S-9.0000ffff we have to find a new SSB freq. Now the South Americans are using 7.040 on SSB in the mornings.
Maybe we should just stay on CW because 70 % of the callers say they are running qrp too at 100 watts. worked one guy who was weaker than the 5W qrpers said he was running 600w to a wire. AS the saying goes "With-out CW its just CB" and thats what it was on 20m today (CB).
Jump off soap box !!! Tank u vely much
11 ARCI stn 21 non 97 qso pts 19 spc's 12,901 pts.

Al K0FRP

From owner-qrp-1@Lehigh.EDU Mon Jan 13 18:02:40 1997
From: "Ralph L. Irons" <rli8m@weyl.math.virginia.edu>

Subject: [8668] Winter Fireside SSB Sprint
Message-ID: <Pine.A32.3.93.970112211247.56222A-100000@weyl.math.Virginia.EDU>

It was a thrill to hear QRP SSB signals on 14.285!
The signals rose to S9 levels from Texas, Arizona
and Colorado. Also worked New York, Georgia and
Spain (non-QRP stations). Didn't hear many other
stations.

Rig: WM-20 & amp at 10W PEP
Ant: Dipole @ 35'

72, Ralph N7RI
Charlottesville VA

From owner-qrp-1@Lehigh.EDU Mon Jan 13 18:02:40 1997
From: "John A. Evans - N3Q00" <jaevans@cos.cst.titan.com>
Subject: [8663] WTB: Ten-Tec C21 calibrator - model 276
Message-ID: <199701130129.UAA28814@nss2.CC.Lehigh.EDU>

Greetings,

I just finished the rebuild on a Ten-Tec Century 21 and am interested
in locating a calibrator for it. Email offers offline - thanks and

72, n3qoo
john

John A. Evans Chief System Administrator
Office: (719) 528-1800 x164 Titan Client/Server Technologies
Fax: (719) 528-1275 1115 Elkton Dr, Suite 200
email: jaevans@cos.cst.titan.com Colorado Springs, CO 80907-3535

Norcal #262 QRP-L #219 QRP-ARCI #8303 NE-QRP #213 CQC #045
CQrp #15 NJ-QRP #50 AK-QRP

From owner-qrp-1@Lehigh.EDU Mon Jan 13 18:02:40 1997
From: mvjfm@mvubr.mv.lucent.com (James M Fitton +1 508 960 2577)
Subject: [8720] Xtal swap
Message-ID: <199701131757.MAA23998@alig1.firewall.lucent.com>

Quartz swap needed.....

For my Cake-Pan-5 QRP, 2 tube CW transmitter
(that I will bring to Dayton)

I need a 160m crystal in the range of 1.805 - 1.815 MHz.

To swap;

I have some tiny 21.078 MHz, 15m crystals,
easily pulled (rubbered) to below the QRP
frequency (21.060 MHz).

Wayne N6KR published a circuit, in QST,
for a 15m Neophyte receiver a few years back.
This xtal worked great in it !

Jim Fitton

Tel. 508-960-2577, FAX-3466
jfitton@lucent.mv.com

From owner-qrp-1@Lehigh.EDU Mon Jan 13 18:02:40 1997
From: Alan Kaul <kaul@netcom.com>
Subject: [8680] Re: 28 Special?
Message-ID: <Pine.3.89.9701122103.A5569-01000000@netcom7>

I'm going to put one on 20M but it doesn't make sense
to use a crystal VX0 because the best mixing scheme (a computer xtal
at 2.048MHz in the osc) would only give you about 2-4kHz of swing
as a standard VX0 and perhaps as many as ten kHz using the so-called
JA dual-xtal scheme. So the best remaining option is to build a VFO
very similar to what N6KR designed for the Norcal 40/40A. That's
stable, and likely to give you 40kHz of bandspread. And best of all--
you don't have to fool around with Ori's 12MHz IF design or BFO offset or
xtal filter.

As we say in TV News: what could possibly go wrong?

GL, 73/72 de alan

[<Alan Kaul, W6RCL>] kaul@netcom.com

From owner-qrp-1@Lehigh.EDU Mon Jan 13 18:02:40 1997
From: "Joseph L. Hartmann, Jr." <joe@sugar-river.net>
Subject: [8684] Re: 28 Special?
Message-ID: <Pine.BSD/.3.91.970113010854.11130B-100000@arakis.sugar-river.net>

Only thing stopping me from ordering mine is novices can't use it!
(more hints).

Best Regards,

Joe Hartmann Tel: (603) 863 6073
K2AJV -issued email: joe@sugar-river.net
1951 home-page: <http://www.sugar-river.net/~joe>

First Student at the:

Linux Academy in the Sunshine Town of Newport, NH

Thanks to RMS, Linus, and other contributors of free software!

----- I grant this to the public domain -----

On Sun, 12 Jan 1997 SNickrand@aol.com wrote:

> I've ordered two 38S's hoping one of you talented folks figures out how to
> change it to 20 meters (hint, hint). KB9KOL
>
>

From owner-qrp-1@Lehigh.EDU Mon Jan 13 18:02:40 1997
From: dwink@juno.com (Daniel C Winkler)
Subject: [8738] Re: 28 Special?
Message-ID: <19970113.125327.4927.12.DWink@juno.com>

On Sun, 12 Jan 1997 21:11:21 -0800 (PST) Alan Kaul <kaul@netcom.com>
writes:

>I'm going to put one on 20M but it doesn't make sense
>to use a crystal VXO because the best mixing scheme (a computer xtal
>at 2.048MHz in the osc) would only give you about 2-4kHz of swing as a
standard >VXO and perhaps as many as ten kHz using the so-called
>JA dual-xtal scheme. So the best remaining option is to build a VFO
>very similar to what N6KR designed for the Norcal 40/40A. That's
>stable, and likely to give you 40kHz of bandspread. And best of all--
>you don't have to fool around with Ori's 12mHz IF design or BFO offset
or
>xtal filter.

No, no, no. Don't stay married to Ori's high IF. He did that
so's you COULD have a decent swing with off-the-shelf computer crystals.
Very ingenious. But if you are going to put it on another (higher)
freq. and use a VFO, then change the IF to something more friendly,
like 10.7, or even 2.048 if you're not ashamed to add another NE602 to
crystal-mix up from a lower VFO freq. I say ashamed because at some point the
mods will overwhelm Ori's original and beautifully concise
design; at some point *more* will become *less*.

But speaking of moving the NC38s to another freq., I intend to do
just that, after I've made a stock NC38s (with a few mods, of course).

Have you folks at NorCal given any thought to running some extra
boards, to sell AS BOARDS ? I have nearly everything I need to
populate several, and it grieves me to think of you volunteers spending
time on my behalf when it's not necessary. How about it? I'd like 3,
to start. Well, maybe 4, as I am sure to really bugger up at least one
with too many mods! I want one for 80.

Also, I wouldn't expect the 5 watt mod to work well above 30 meters
unless you find a hotter power MOSFET. See Dan Tayloe's posting of 1-10-97.

>As we say in TV News: what could possibly go wrong?

Heh, heh, heh. Remember, Murphy was an optimist.

73 ; D DWink@Juno.com Dan Winkler N7IVR Seattle,
WA

----Whom the gods would destroy, they first make proud----

From owner-qrp-l@Lehigh.EDU Mon Jan 13 18:02:40 1997
From: Vic Rosenthal <rakefet@rakefet.com>
Subject: [8712] Re: AEA Isoloop

Message-ID: <32DA674E.12CF@rakefet.com>

Stephen Gibson wrote:

>

> Anyone had any experience with the AEA Isoloop? Got one of the last ones for
> Christmas but haven't had a chance to test it since my Argosy is in for an
> oil change. I'd appreciate any tips.

>

I've got one. It's sitting out back of the garage now, and will probably stay there until I can find a sucker (er, experimenter) to take it off my hands. The good news is that it is an efficient and quiet antenna on 14-30 MHz., and it works adequately on 10 MHz. The bad news is that the tuning is SUPER touchy and will drive you nuts! Mine had a sort of backlash in it - I had to sneak up on the desired frequency, and then it would always overshoot - even a pulse at a time. It always took several back-and-forth tries until I hit it right. I discussed the problem with AEA and they sent me a replacement stepper motor and a kit to slow down the controller, but nothing helped. I have the simpler controller, but I doubt that the fancy one would be much better, since I think the problem was in the mechanical linkage at the antenna. Mine also would drift over time (minutes) and need to be retuned. Anyone want to pick it up here in Fresno, \$50 cash and carry.

Vic K2VCO

From owner-qrp-1@Lehigh.EDU Mon Jan 13 18:02:40 1997

From: Patrick Taber <ptaber@logiccraft.com>

Subject: [8699] Re: Badgers! I told you they were goin' crazy! Now see what's

Message-ID: <1.5.4.32.19970113142259.00bd4ccc@freebird>

>First off, for the second time, Cindy's fancy-schmancy Compaq multi-media
>Pentium powerhouse from hell computer croaked.

>looked like it'd been attacked by chickens. And the machine was stalled dead
>as a block. Very interesting, ne?

>

>It's taken me all this week to get it working again.

>

> This afternoon at about 5 pm, I finally got AOL
>to work and spend the remaining 16 minutes on-line downloading the past four
>days worth of mail.

>

>And Cindy just called to say that she's gonna need the machine this weekend
>to take care of some take-home work.

"Well, we all have our problems."

>>>==>PStJTT (Somebody had to say it...)

From owner-qrp-1@Lehigh.EDU Mon Jan 13 18:02:40 1997
From: Cecil A Moore <Cecil_A_Moore@ccm.ch.intel.com>
Subject: [8717] Re: Conjugate Matching

>From: jeffa@ix.netcom.com (Jeff Anderson)
>Let's see, you say, "I apologize if I have misunderstood any of your
>postings. It appears that we have never disagreed on anything in the
>rest of your latest posting." You also say that I was "not talking
>about the same load that the theorem talks about."
>Is this your way of saying that I was right, and you were wrong?

Yes and no. I was apparently wrong to assume the "load" you were talking about was the "load" talked about in the conjugate matching theorem. Mis-communication happens all the time on email - don't act like I'm the first to misunderstand a posting. The load you were talking about is the reflected image of the load I (and the theorem) were talking about. Making a big issue out of it seems to me to be one of the argumentum ad xxxxx, (diverting the issue). My misunderstanding of your use of the word "load" does not excuse you from the mistake of using the Thevenin model incorrectly.

>No, our disagreement was due to *your* misunderstanding of the
>fundamental concept of 'output impedance', and by extension, a
>misunderstanding of the principles of conjugate matching.

Another one of the argumentum ad xxxxx arguments. Say something over and over until people start believing it. I believe the "output impedance" of a typical ham amp is the loadline. You certainly have not proven that it is something besides the loadline. You say one sees the "load" when one looks into the transmitter's output terminals. It's rather obvious that is the wrong direction to be looking for the "load". I believe one is seeing the loadline. I believe that loadline causes a conjugate match. That doesn't violate the principles of conjugate matching.

>And now I'm being accused of having a "(self-admitted) closed mind,"
>and not understanding non-linear amplifiers.

Read your earlier posting. You said no matter what I said, you were not going to change your mind - translation: My mind is made up, don't

bother me with facts. I believe that you (or anyone else trying to use the Thevenin equivalent to represent a typical ham transmitter) do not understand typical ham amplifiers. Again, Thevenin, himself, warned against such use of his model.

>5. Isn't a typical 2 Watt QRP transmitter's 3 or 5 element lowpass
>network the same thing as this optimal network? No. It doesn't
>provide the requisite impedance transformation to the optimal value
>(unless that optimal value is, say, 50 ohms).

Jeff, that "lowpass network" absolutely does impedance transformation. It matches the transmitter's loadline (usually) to 50 ohms. If this is the basis of your claim that ham amps may not achieve a conjugate match, it's just not true. A pi-net can transform impedances as well as or better than a parallel tank circuit.

>If this 50 ohms, when transformed by
>the final's output network, looks like the collector's optimal load
>resistance, then indeed we have tuned to a conjugate match.

That is the way transmitter finals are designed. If maximum transfer of available power is the goal, a designer would be crazy to design it any other way. Those C-L-C-L-C pi-net output circuits transform the "collector's optimal load resistance" to 50 ohms in most ham radio designs and therefore, do indeed, achieve a conjugate match.

>Tomorrow I leave on vacation, so you will be able to accuse me to your
>heart's content of any number of things, and I won't be able to
>respond.

Another argumentum ad xxxxxx. Have a nice vacation. I've asked the guy who designed a lot of the Heathkit amps and Ameritron amps to contribute a thread to explain (better than I can) how the amp achieves a conjugate match . I'll save it for you.

73, Cecil, W6RCA <http://people.delphi.com/CecilMoore>

From owner-qrp-1@Lehigh.EDU Mon Jan 13 18:02:40 1997
From: "Joseph L. Hartmann, Jr." <joeh@sugar-river.net>
Subject: [8733] Re: Conjugate Matching
Message-ID: <Pine.BSD/.3.91.970113154646.5280B-100000@arakis.sugar-river.net>

On Mon, 13 Jan 1997, Cecil A Moore wrote:

> seems to me to be one of the argumentum ad xxxxx, (diverting the issue).

hominem

Best Regards,

Joe Hartmann Tel: (603) 863 6073
K2AJV -issued email: joeh@sugar-river.net
1951 home-page: <http://www.sugar-river.net/~joeh>

First Student at the:

Linux Academy in the Sunshine Town of Newport, NH

Thanks to RMS, Linus, and other contributors of free software!

----- I grant this to the public domain -----

From owner-qrp-1@Lehigh.EDU Mon Jan 13 18:02:40 1997
From: Martin Squicciarini <skitch@resuba.com>
Subject: [8695] Re: CQrp Challenge Contest! - Mark UR Calendars
Message-ID: <Pine.LNX.3.91.970113081215.6108A-100000@resuba.com>

72/73

Marty Squicciarini NR3Z
skitch@resuba.com (home)
msquicci@vf.lmms.lmco.com (work)

On Sun, 12 Jan 1997, Len W. Tough wrote:

> *** ANNOUNCEMENT ***
>
> THE date for the CQrp CHALLENGE CONTEST is set.
>
>
> Details are available at the CQrp Web Site -
> <http://www.infinet.com/~len>
>
The correct URL is

<http://www.infinet.com/~len>
^^

From owner-qrp-1@Lehigh.EDU Mon Jan 13 18:02:40 1997
From: "Len W. Touth" <len@infinet.com>
Subject: [8708] Re: CQrp Challenge Contest! - Mark UR Calendars
Message-ID: <199701131630.LAA01002@mail1.infinet.com>

Sorry Gang

That is what I get for trying to type at midnight! (smile)

Best 72/3

Len

KG8SF

len@infinet.com kg8sf@key.com

QRP-L # 841 CQrp # 2 ARCI # 9025 FISTS # 2134

CHARTER MEMBER - THE COLUMBUS QRP CLUB - CQrp

Web Page: <http://www.infinet.com/~len>

From owner-qrp-1@Lehigh.EDU Mon Jan 13 18:02:40 1997
From: lhalliday@creo.bc.ca
Subject: [8748] Re: DDS
Message-ID: <9700138531.AA853196072@mail2.creo.bc.ca>

I did a talk for the local ham club on DDS last year. Advantages I discussed included stability, frequency agility and repeatability, and simplicity. The only real disadvantage is heavy (by QRP standards) power consumption.

If the output spectrum isn't clean enough for your application, clean it up with a PLL. For free you can move the output frequency anywhere you want while you're at it.

A microcontroller is handy to feed DDSs programming data, but they're cheap these days. Or use a parallel input chip and a diode matrix. Or ask around and see who has a junky old computer lying around that they'll part with for little or nothing. Somebody gave me an XT laptop not too long ago. Such a machine is overkill for an application like

this, but the price was right.

One of the things in my Queue Of Things To Investigate is using external memory for calling frequencies and the like. I initially had the idea of plugging in EEPROM chips. Until I saw my first smart cards...

When you compare the cost of new (not surplus) parts, the price of an AD7008 or similar plus support circuitry isn't that much more than a really good scratch-built VFO. It also works better and is infinitely easier to tame.

Laura Halliday VE7LDH	"C'est une femme mutine, assez
lhalliday@creo.com	elegante, grave et legere, ayant le
ve7ldh@amsat.org	sens du confort et du plaisir
Locator: CN89mg	en tout." - C. Deneuve

From owner-qrp-1@Lehigh.EDU Mon Jan 13 18:02:40 1997
From: lhalliday@creo.bc.ca
Subject: [8719] Re: Direct Digital Synthesiser by G40PE
Message-ID: <9700138531.AA853178375@mail2.creo.bc.ca>

Brian VE5RDV asked:

> I was looking at the circuit diagram given in SPRAT and would like to
> experiment with a scaled down version using the AD7008. Does anyone
> know where I could get a data sheet for this and the other IC's in
> the schematic?

I don't know what the other devices in the schematic are, but you can download Analog Devices information from www.analog.com - including the AD7008. Other manufacturers I've found with useful web sites include www.natsemi.com and www.design-net.com (Motorola). There are many others, of course...

Laura Halliday VE7LDH	"C'est une femme mutine, assez
lhalliday@creo.com	elegante, grave et legere, ayant le
ve7ldh@amsat.org	sens du confort et du plaisir
Locator: CN89mg	en tout." - C. Deneuve

From owner-qrp-1@Lehigh.EDU Mon Jan 13 18:02:40 1997
From: "'AB7HI' Stephen Lee" <slee@u.washington.edu>

Subject: [8721] Re: Direct Digital Synthesiser by G40PE

Message-ID: <Pine.A41.3.95b.970113095652.65394B-100000@homer29.u.washington.edu>

There is a URL for Analog Devices Corp.:

<http://www.analog.com>

To go directly to their AD7008 spec sheet html:

<http://www.analog.com/products.sheets/AD7008.html>

Here's some (circa 1992) numbers to call in Canada: (416) 821-7800, (613) 564-0014, (514) 697-0801, (604) 465-6892, or call their Seattle, WA, office at (206) 575-6344. Customer service number is 1-800-334-2418. Analog Devices Corp. is very very good in their support of universities so don't hesitate to ask for samples.

Enjoy!

Stephen Lee, AB7HI, Tacoma, WA

slee@u.washington.edu

On Mon, 13 Jan 1997, Brian.Buydens@usask.ca wrote:

> I was looking at the circuit diagram given in SPRAT and would like to
> experiment with a scaled down version using the AD7008. Does anyone know
> where I could get a data sheet for this and the other IC's in the
> schematic?
> | email: Brian.Buydens@usask.ca
> | VE5RDV

From owner-qrp-1@Lehigh.EDU Mon Jan 13 18:02:40 1997

From: "'AB7HI' Stephen Lee" <slee@u.washington.edu>

Subject: [8727] Re: Direct Digital Synthesiser by G40PE

Message-ID: <Pine.A41.3.95b.970113105534.65394C-100000@homer29.u.washington.edu>

I believe the G40PE DDS circuit utilizes a PIC uController along with a rotary optical encoder. There's a nice URL that has a glossary of terms for optical encoders...just don't look at the prices ;) <http://www.usdigital.com/glossary.shtml>
Also look here: <http://megatron.de/meba/impuls/page1.htm>

Might as well just go straight to the PIC appnotes and look at some examples. Here's the URL you need for that:

<http://www.microchip2.com/appnotes/appnotes.htm>

There are no typos in these URLs...they work as shown. Enjoy!

Stephen Lee, AB7HI, Tacoma, WA

slee@u.washington.edu

From owner-qrp-1@Lehigh.EDU Mon Jan 13 18:02:40 1997
From: launerb@crl.com (William H. Launer)
Subject: [8736] Re: Direct Digital Synthesiser by G4OPE
Message-ID: <v01530503af004c33cd28@[192.0.2.1]>

At the risk of being labeled an "OF", here is a question I have to ask:

What are the advantages of using a "Direct Digital Synthesiser" for an hf rig in lieu of a well-designed, conventional analog vfo? I've built and used frequency synthesizers for vhf rigs, but those bands are, for the most part "channelized" (by mutual agreement). On the other hand, on hf we often squeeze our signals in between other signals, and need continuous frequency resolution. How is this to be accomplished with digitally controlled synthesizers?

72/73 Bill wb0cld

Bill Launer
St. Charles, MO
launerb@crl.com
wb0cld@wb0cld.ampr.org [44.46.66.25]
qrp-1 #279 qrp arc1 #3551
Grid Square EM48RT

From owner-qrp-1@Lehigh.EDU Mon Jan 13 18:02:40 1997
From: "Duane C. Johnson" <redrok@pclink.com>
Subject: [8743] Re: Direct Digital Synthesiser by G4OPE
Message-ID: <32DACD0D.1708@pclink.com>

Hi William;

William H. Launer wrote:

>

> At the risk of being labeled an "OF", here is a question I have to ask:

>

> What are the advantages of using a "Direct Digital Synthesizer" for an
> HF rig in lieu of a well-designed, conventional analog VFO? I've built
> and used frequency synthesizers for VHF rigs, but those bands are, for
> the most part "channelized" (by mutual agreement). On the other hand,
> on HF we often squeeze our signals in between other signals, and need

> continuous frequency resolution. How is this to be accomplished with
> digitally controlled synthesizers?

The major advantage is the tune-ability yet absolutely precise and stable frequencies these can generate.

A 32bit DDS using a 50MHz reference has a frequency resolution of .012Hz. Yea I mean 10 millihertz. So there isn't really any any channelization built into the DDS as opposed to Phased Locked Loop, PPL, synthesizers.

BTW where can I find what the current state is of "coherent CW" or "ultra narrow band CW" or "synchronous AM detection". These are all different names for an interesting type of receiver. These receivers can easily detect signals at levels considerably under the received noise window as compared to normal envelope detection.

I have been experimenting with this off and on for many years. The main requirement is that both the transmit and receive sites have to have absolutely precise and phase synchronized frequency references. These references are easy to obtain now and synchronized with the 60KHz WWVB time source.

I bring this up because the DDS synthesizers are needed to generate the precise frequencies used in these systems. Some have proposed that there be 10Hz channels for coherent CW. Just think how little noise there is in a 10Hz window and yet stuff a normal CW signal into it compared to a normal 500Hz CW filter window. On the face of it there should be a 17dB improvement in signal to noise ratio.

I am a nubie to your list so bear with me if I am asking questions about things that are old hat you guys.

> 72/73 Bill wb0cld
>
> Bill Launer
> St. Charles, MO
> launerb@crl.com
> wb0cld@wb0cld.ampr.org [44.46.66.25]
> qrp-l #279 qrp arco #3551
> Grid Square EM48RT

--

CUL8ER

Stupid is Forever.
Ignorance can be Fixed.

Duane C. Johnson
WA0VBE
Red Rock Energy
Solar Heliostats
1825 Florence St.
White Bear Lake, MN, USA 55110-3364
redrok@pclink.com
dcj2@P08.RV.unisys.com
<http://www.geocities.com/SiliconValley/3027/>
(612)426-4766 h 635-5065 d

From owner-qrp-1@Lehigh.EDU Mon Jan 13 18:02:40 1997
From: kd1jv@juno.com (Steven Weber)
Subject: [8747] Re: Direct Digital Synthesiser by G4OPE
Message-ID: <19970113.180146.4863.0.KD1JV@juno.com>

>

>What are the advantages of using a "Direct Digital Synthesiser" for an
>hf rig in lieu of a well-designed, conventional analog vfo? [snip]

Hi Bill,

Well, there are a number of nice advantages to DDS.

Mainly, the incredible tuning range, resolution and stability

The 7008 can be set up to operate from 0 Hz to close to 25 Mhz, at the turn of a knob. The newer 9850 DDS chip can produce outputs up to 40 Mhz. Frequency resolution of 1 Hz is typical, but I have built versions with 0.1 Hz resolution for guys who use it to select and test crystals for filters. DDS oscillators also have a constant voltage output level, although filters needed on the output can cause some drop on the high end.

I just shipped one version that tuned 0 to 100 Hz with 0.001 Hz resolution, to be used as a very low freq filter calibrator. Try and do that with an analog oscillator and get an accurate freq read out. It also has serial control and digital output level control (0 to -25 dB in 1 dB steps), not easily done with an analog system.

Other advantages include phase continuous phase modulation and freq shifting. i.e., there is no abrupt "jump" as you change frequency or phase.

Freq stability is set by a reference clock, crystal controlled. A typical TTL clock module will give pretty good stability, although they do have some warm up drift. If you want, a quality TCO reference clock will give

very , very good stability.

Because the DDS is computer controled, you can add in all kinds of features like RIT, memo memories, programmable memories, programmable offsets and the like. Things that are not easy to do, or impossable with analog VFO's.

Normal PLL circuits don't give the kind of tuning resalution possable with DDS. It takes a very complicated multi PLL and mixing schems to produce the same results one gets with a single DDS chip. DDS also produces a signal with very low phase noise and very little or no close in sideband noise.

Of course, there is a down side. These are spurious signals. In addition to the desired fundamental signal, the DDS prosses inhearently produces images, the sum and diffrence between the fundimental and the reference clock and all of its harmonics. The most trouble some product is the difference between the fundimental and the reference clock. In the 7008, with a clock of 50 Mhz, when the output is tuned to 25 Mhz, you also get a 25 Mhz image. As the fundimental frequency is moved lower, the image moves up. At 24 Mhz, the image is at 26 Mhz. Often it is difficult to seperate these two signals. An upper limit of 23 Mhz is about the highest one can go with the 7008 and attenuate the image enough not to be too serious a problem.

There are also a lot of small spurious signals in the desired tuning range of the DDS output. These are caused by "glitch energy" stored in the Digital to Analog conveter's latches. This energy gets transfered to the output when the latches are updated. Typicly, in the 7008, this type of spurious signal is better than 50 dBc down from the fundimental signal.

If the DDS only needs to be tuned over a fairly narrow range, bandpass filters can be used to get rid of the spurious and produce a signal almost as clean as a well designed analog oscillator. (and much cleaner than a poorly designed or built one)

One last disadvantage is the cost and power consumption. The 7008 is still wicked expensive and all the other parts you need to make it work add up quick. The 7008 draws almost a watt of power running with a clock of 50 Mhz.

Over all, the advantages of a DDS oscillator can greatly out wiegh the disadvantages. Tuning range, freq resalution, freq agility, etc, makes the DDS system very attractive for many applications.

de KD1JV, Steve in NH,

BTW, I also sell a nice little 7008 based VFO kit. email direct for

details.

From owner-qrp-1@Lehigh.EDU Mon Jan 13 18:02:40 1997
From: Leon Heller <lfheller@lfheller.demon.co.uk>
Subject: [8749] Re: Direct Digital Synthesiser by G40PE
Message-ID: <YuWgIAA5Qo2yEwB+@lfheller.demon.co.uk>

In message <Pine.OSF.3.95.970113085733.13485A-100000@duke.usask.ca>,
"Brian.Buydens@usask.ca" <buydens@duke.usask.ca> writes
>I was looking at the circuit diagram given in SPRAT and would like to
>experiment with a scaled down version using the AD7008. Does anyone know
>where I could get a data sheet for this and the other IC's in the
>schematic?
>

You should find it on www.analog.com

Leon

--

Leon Heller, G1HSM
leon@lfheller.demon.co.uk
Tel: +44 (0) 118 947 1424 (home)
+44 (0) 1344 385556 (work)

From owner-qrp-1@Lehigh.EDU Mon Jan 13 18:02:40 1997
From: Sjolín@aol.com
Subject: [8674] Re: Email providers (and JUNO)
Message-ID: <970112230407_1377068964@emout04.mail.aol.com>

In a message dated 97-01-12 13:10:43 EST, joeh@sugar-river.net (Joseph L. Hartmann, Jr.) writes:

<< I would be inclined to
play "hardball" with Visa and refuse to make any further
payments to them until this AOL scam is cleared up. This could
damage your credit rating, but I believe that any unfavorable
credit report on you gives you the right to make a statement
regarding it. >>

I believe once you notify Visa in writing of the billing problem, you are under no legal obligation to pay "that portion" of your credit card until they make a determination on the issue. Pay all but what you owe for AOL and your credit rating won't suffer. But you do have to submit your claim in writing.

73 de Dave, NOIT

From owner-qrp-1@Lehigh.EDU Mon Jan 13 18:02:40 1997
From: ka0yos@arn.net
Subject: [8682] Re: Email providers (and JUNO)
Message-ID: <199701130519.XAA26942@arnet.arn.net>

What's the deal on Juno? My dad lives in a rural area where no provider is available without a long distance charge. Is their "toll free" charged by the minute like AOL? Provider wars are tough in Amarillo. \$14.95 unlimited is average in Amarillo, and \$9.95 per month is the current low. That includes some web space!

72,
Joe ka0yos

From owner-qrp-1@Lehigh.EDU Mon Jan 13 18:02:40 1997
From: n1ist@netcom.com (Michael L. Ardai)
Subject: [8704] RE: Email providers (and JUNO)
Message-ID: <199701131504.HAA26296@netcom5.netcom.com>

>What's the deal on Juno? My dad lives in a rural area where no provider is
>available without a long distance charge. Is their "toll free" charged by
>the minute like AOL?

Juno has *no* charges of their own. Depending on your phone service and their nearest number, the phone call itself (rather brief...) may cost money.

/mike

From owner-qrp-1@Lehigh.EDU Mon Jan 13 18:02:40 1997
From: Dan Keen <70731.722@CompuServe.COM>
Subject: [8673] Re: Email providers, Smoke demons, etc.
Message-ID: <970113034850_70731.722_EHM45-1@CompuServe.COM>

> >I get these "free" AOL and Compuserve disks in the mail every week, or
in > >whatever piece of new computer gear I buy. I promptly toss them in the
> >trash where they belong.

> I'm saving mine, right now I have over 50 coasters for my drinks in
> different colors and designs.
>
> I think I may design a new antenna system when I reach 100+...
>
> Maybe something in the UFO style for April's TTF...
>

I appreciate all the suggestions and am planning on trying all of them at the same time, i.e. talking to higher ups at AOL billing, instead of the sales representatives who answer, calling and writing credit card company, writing AOL president, and computer magazine readers' mail column editor. Looks like though that everybody is saying that a small-claims court is too local to work against a far away company.

Maybe even the semi-humorous suggestion of melting bulk mail CD's in the microwave is worth pursuing too: Does anybody know if an 16X CD drive really spins that fast physically, or just reads info 16 times faster while turning at the same old 1X speed? Reason is that it occurred to me that circumference length increases vs. the radius as πR^2 . Was thinking of using an microwave oven pizza pan mold to recast melted down CD's into one disk of large radius <grin>.

Next, to go out and buy the latest multiX CD drive and do a further homemade hop-up of the gear ratio. Perhaps realistically it might be possible to achieve a point way out on the large disk's rim which is traveling at greater than the speed of light? Then copy AOL.EXE to the large disk, boot the program from the hot drive, stay online as time runs backwards to the point just before I signed up for the wonderful AOL two year plan, and then bypass around that menu. Just kidding.

But seriously all the many other suggestions seem solid. Interesting that one guy writes he has managed to get onto AOL only once in December and another posts that AOL reps are on TV advertising that they currently have an enormous access problem.

I appreciate all the help, because I don't have the information to speak intelligently on the subject of what AOL's problem actually is. On the one hand I can surf WWW pages in Europe and Asia by the hour at access rates of twenty per month, far lower than telephone rates. So to me (from economic considerations) it seems that many internet users must be at the same time on the same line which runs to Europe, or rates wouldn't be so cheap. Yet apparently a bunch of calls cannot come in together to the local AOL access station and on to AOL headquarters. Because if they could then they wouldn't have these huge overload problems.

Dan K6DZ

From owner-qrp-l@Lehigh.EDU Mon Jan 13 18:02:40 1997
From: ed.welch@cheaha.com (ED WELCH)
Subject: [8686] Re: Encounter of the Altoids Kind
Message-ID: <8CFF57A.0004001786.uuout@cheaha.com>

-> Read a newspaper article recently about a firm over in Tacoma, WA, by
-> the name of Brown & Haley. You may have seen their Almond Roca for
-> sale around

-> Just another possibility for tins.....

Also, if you happen to eat at Cracker Barrel Restraunt look for some small tins with a picture of Napoleon on the front, they're called "Le Bon Bonbon Napoleon". The tins are a tad larger than an Altoids tin and there's no hinge, although there is a small rubber(?) gasket on the inside of the lid to help seal the lid tight. Kinda pricey though, close to \$3 for the hard candy.....it's good candy, though! :) And a nice tin, too.<g>

72/73

Ed Welch KF4KRV

QRP-L #873

Luverne, Alabama

Crenshaw County - Grid EM61

```
+-----+  
-----+ Norcal 40a es Straight Key es Wire-wrapped Trees +-----  
+-----+
```

> Isn't "time" a 4-letter word? <

From owner-qrp-l@Lehigh.EDU Mon Jan 13 18:02:40 1997
From: Dave.Ackrill@westwood45.powergen.co.uk
Subject: [8688] Re: EQUIPMENT ENCLOSURE
Message-ID: <970113094109Z*/G=Dave/S=Ackrill/O=westwood45/PRMD=POWERGEN/
ADMD=CWMAIL/C=GB@MHS>

I'm sure that I'm not the first person to think of using biscuit tins as enclosures for QRP rigs?

One problem is that many of the manufacturers of the stuff that normally goes inside a tin box are swapping to plastic or cardboard

containers. Plastic I guess you could spray with that conductive paint stuff, but what about cardboard and then what happens when you take the rig out in the rain?

I'm going to raid my Mums pantry (larder) for metal tins. She NEVER throws anything away.

I've also developed an embarrassing trait (another one!), well it embarrasses my children anyway, in that I go around the shops looking for metal tins and boxes. Don't care what's in them, just wander around muttering "a 40-9er would fit in that" "wonder if the SST will fit in that one?".

Perhaps we should all start cataloguing and hoarding metal tins for the day when they are all gone?

Should I be asking Nils for advice on the correct medication?

Cheers de Dave (G0DJJA)

From owner-qrp-1@Lehigh.EDU Mon Jan 13 18:02:40 1997
From: ka7you@juno.com (rodney j johnson)
Subject: [8681] Re: Hey---You did WHAT!!
Message-ID: <19970112.211416.11558.21.KA7YOU@juno.com>

Chuck,

The only 'tricky part' ...

snip> "This is tricky, so here goes.

> Oh, I paid extra duty to get #1 NC38S..."

... is that several others have also , it is rumored, paid 'extra' for the same honor.

How else do you think the NorCal Club can produce these kits for the ridiculously low price that is being asked.

And you thought you were putting one over on us...but the rest of us appreciate the subsidy. :>)

Let's see, at 500+ units, just how much did you save us anyway?

Jealously speaking,

Have fun, and let us know when you put it on the air. I'll be listening with my NW30 until I get mine.

7 3,

Rod Johnson KA7YOU NWQRP#120 QRP-ARCI#7251

From owner-qrp-1@Lehigh.EDU Mon Jan 13 18:02:40 1997
From: k5zty@juno.com (WILLIAM A STIETENROTH)

Subject: [8666] Re: Juno message sorting and Help Files
Message-ID: <19970113.014202.4911.0.k5zty@juno.com>

Rod,
Thanks for the idea on sorting the incomming mail. What I need is a way to delete or kill a batch of messages instead of having to handle each one separately. I would like to scan the subject lines and read what I am interested in and delete the rest in one command. How do I do that???

Thanks and 72,
Bill, K5ZTY

WITHOUT CW, IT'S JUST CB
ARCI 8817, CQC 178, NOR-CAL 1321, MI 1472, NE 440
QRP-L 473

From owner-qrp-l@Lehigh.EDU Mon Jan 13 18:02:40 1997
From: talljazz@teleport.com (Dan Presley)
Subject: [8740] Re: KE3FL Antenna woes
Message-ID: <v01530500af003c13490c@[206.163.126.74]>

>Anti-puppy trock:
> Indoors, at least, if you coat wire with Tabasco sauce
>(or equivalent), they puppy will lose interest quickly.
>
>--Mark
>
>
>-- Mark Gaponoff (gaponoff@macconnect.com) 73's de KJ7EM.
> "Life has meaning, but a poor signal-to-noise ratio."
>-- Ann Gaponoff (gaponoff@macconnect.com)
> "Si hoc legere scis, nimium eruditionis habes."
Depends on the dog- I've had 2 retrievers that loved cayenne & tabasco. A better choice to save anything you care about is "Bitter Apple" sold at most pet stores. Has saved a couple of dogs' existence!
Dan N7CQR

From owner-qrp-l@Lehigh.EDU Mon Jan 13 18:02:40 1997
From: "Joseph L. Hartmann, Jr." <joeh@sugar-river.net>
Subject: [8734] Re: N100Q RX #6: more mixer tradeoffs, noise, dynamic range
Message-ID: <Pine.BSD/.3.91.970113153915.5280A-100000@arakis.sugar-river.net>

Tom, thank you for the posting.

On Mon, 13 Jan 1997, 13-Jan-1997 1134 wrote:

> No. 6
>
> Mixers not only distort the incoming signals, but add some noise to them as
-----snip -----

> These N100Q RX postings are intended to be a learning exercise for the
> QRP-L folks, so if you have questions or comments, post them! How's the
> level of detail? Too much or too little?

Some nice references would be helpful. Dr. Harold Friis would
be proud of you. Very nice article. Why is your handle 1134 ?

What happened to Ulrich Rhode?

Best Regards,

Joe Hartmann Tel: (603) 863 6073
K2AJV -issued email: joeh@sugar-river.net
1951 home-page: <http://www.sugar-river.net/~joeh>

First Student at the:

Linux Academy in the Sunshine Town of Newport, NH

Thanks to RMS, Linus, and other contributors of free software!
----- I grant this to the public domain -----

>
> =====
> Tom Randolph N100Q NE-QRP 419 QRP-L 87 ARRL randolph@asic.enet.dec.com
> =====
>
>

From owner-qrp-l@Lehigh.EDU Mon Jan 13 18:02:40 1997
From: rflight@VNET.IBM.COM
Subject: [8741] Re: N100Q RX #6: more mixer tradeoffs, noise, dynamic range
Message-ID: <199701132150.QAA42174@nss2.CC.Lehigh.EDU>

Just a brief comment regarding HF noise.

Adding a preamplifier at the front end of a receiver that is atmospheric noise
limited does nothing to improve performance, save an increase in end-to-end

gain which might be desired to yield an increase in output "loudness".

With respect to noise, SNR is set by the signal strength to atmospheric noise level at the antenna terminals, and only noise cancelation and processing bandwidth reduction will improve output SNR. Only when atmospheric noise decreases to a level below the effective input noise figure of the receiver does the introduction of a low noise preamplifier yield an improved SNR.

Atmospheric noise is strongly dependent on frequency, time of day, solar activity, and a vast array of natural and man-made noise sources. HF receivers come equipped with built in RF pre-amplifiers (as well as front end attenuators) to aid the operator toward maximizing the instantaneous dynamic range of his/her receiving system for any given set of operating conditions.

Grayline operation can most benefit from careful utilization of such resources. An attenuator might be appropriate on 160 meters where many strong signals abound, as well as a high level of atmospheric noise as the atmosphere is in transition. 10 meters at the other extreme may suffer little degradation in performance due to atmospheric noise, and a low noise front-end preamplifier might enable detection of signals that might otherwise be dominated by front end receiver noise. Needless to say, attenuators are the order of the day during major contests:-)

72 de N3G0, Gary Raleigh, NC

From owner-qrp-1@Lehigh.EDU Mon Jan 13 18:02:40 1997
From: John Sullivan <sullivjd@tyrell.net>
Subject: [8732] Re: Only States left are Kansas & WV
Message-ID: <32D7268F.1E0F@tyrell.net>

At 06:06 PM 1/10/97 -0500, Jim Hydzik wrote:

>Thats it. Just WV and KS are needed to have all 50 states on the...

What time this weekend? What band? I would be tickled to be #50.

72 KG0MZ

From owner-qrp-1@Lehigh.EDU Mon Jan 13 18:02:40 1997
From: ka7you@juno.com (rodney j johnson)
Subject: [8659] Re: Small 24 Hour clocks
Message-ID: <19970112.164253.11558.8.KA7YOU@juno.com>

I just ordered one clock also. No hassle, no excuses @ \$14.99 including shipping. The operator did comment about a sudden demand for these!

7 3,

Rod Johnson

On Sun, 12 Jan 1997 17:39:49 -0600 watkins <watkins@socketis.net> writes:

>Hi, Friends -

>

>Earlier today I posted:

>

>>I have watched the discussion of 24 hour format clocks, and
>>would like to let you all know that my favorite shack clock
>>is now available, real cheap.

>

>>Made by Oregon Scientific, *****SNIP*****

>>On sale for \$14.99 from Heartland America, 1 800 229 2901,

>>shipping free, item number L1-8916.

>

>One of our group ordered one, and reported being charged for
>shipping. Try mentioning catalog code L1C2-1012, in which the
>free shipping statement is made. I just ordered another for
>myself, and paid no shipping.

>

>73 de Daniel Watkins

>

```
> WW          WW  3333333  DDDDDDD  WW          WW
>  W          W    33      DD      DD  W          W
> WW          WW    333     DD      DD  WW          WW
>  W  W  W    33      DD      DD  W  W  W
> WW W WW      33      DD      DD  WW W WW
>  W W W W    3  33      DD      DD  W W W W
>  WW  WW      33333  DDDDDDD  WW  WW
```

>

>

From owner-qrp-1@Lehigh.EDU Mon Jan 13 18:02:40 1997

From: dwink@juno.com (Daniel C Winkler)

Subject: [8737] Re: Small 24 Hour clocks

Message-ID: <19970113.125327.4927.9.DWink@juno.com>

On Sun, 12 Jan 1997 17:39:49 -0600 watkins <watkins@socketis.net> writes:

>Hi, Friends -

>> my favorite shack clock is now available, real cheap.

>
>>Made by Oregon Scientific, *****SNIP*****
>>On sale for \$14.99 from Heartland America, 1 800 229 2901,
>>shipping free, item number L1-8916.
>
>One of our group ordered one, and reported being charged for
>shipping. Try mentioning catalog code L1C2-1012, in which the
>free shipping statement is made.

I just ordered a pair for 29.95. Confused heck out of both the
tele-clerk and me when I tried to order the *free shipping*
(L1C1-1012) all by itself, hi hi. Boy are they gonna be surprised
when a hundred clocks go out the door in 12 hours!

I love clocks, but re: the start of all this, I really have to put
my 1/20 of one cent in: DOWN WITH UTC. LONG LIVE LOCAL TIME.
Greenwich astronomers and Zulu warriors cannot see MY sun (or stars).
I can add 16 to UTC to get MY time, and I can add 8 to my time to get
UTC.

73 ; D DWink@Juno.com Dan Winkler N7IVR Seattle,
WA

From owner-qrp-1@Lehigh.EDU Mon Jan 13 18:02:40 1997
From: ka7you@juno.com (rodney j johnson)
Subject: [8657] Re: tin's
Message-ID: <19970112.162540.11558.6.KA7YOU@juno.com>

Rich,

I think I saw a list of TIN 'mods' published recently. With the
proper tools, most any kit could be placed in any available TIN. The one
problem was that sometimes you needed several 'tins' to make one "TIN".

I think it was in a copy of the "Trash Recyclers Handbook", I'll try
to dig up a copy for you.:>)

I'm sorry-I just couldn't help myself...

Rod Johnson KA7YOU

On Sun, 12 Jan 1997 14:05:45 -0800 Richard Wilkerson

<richqrp@pacbell.net> writes:

>Hello all ... I have seen the topic of tin's to put rigs in. I have

>come

>up with a couple of tins and would like to know if there are any kits

>that go into these, or are they just made from scratch???

> thanks rich

>--

>Rich Wilkerson WD6FDD, Santee, Ca.

> NorCal, ARCI, Qrp-L, ECRA

> scQRPions
>
>

From owner-qrp-1@Lehigh.EDU Mon Jan 13 18:02:40 1997
From: Bob Kellogg <ae4ic@nr.infi.net>
Subject: [8739] Re: Tuner tests
Message-ID: <199701132101.QAA14668@mh004.infi.net>

Hi Bob,

At 10:27 PM 1/12/97 -0600, you wrote:

>Just read your interesting post. Don't know what your testing methodology
was,
>but I have a question.

I used the geometric resistance box as described by Frank Witt, AI1H, in his
April, May, 1995 QST articles. So I'm using pure resistance, not complex
resistance and reactance to create the SWR.

>As a result of these tests and the ways in which they were performed, can you
>recommend any preferred ways to tune these units for the best efficiency?

The test method causes me to find the most efficient tuner settings. I
have seen a pattern with the C-L-C "T" type tuners. That is, it is always
more efficient to use the least amount of inductance possible. I've not
tested a broad range of tuner designs at this time. If other patterns
emerge, I'll report them.

>Few hams have the test equipment to measure their efficiency, so if you can
>either identify the most efficient tuning conditions, or at least those to
>avoid as being the least efficient, that would be a help.

Exactly, and that was one of the most shocking revelations to me. I was
tuning my "T" type tuner, not realizing that sometimes a different setting
would be vastly more efficient than the setting I used. In some cases,
using the next lower inductance setting will improve efficiency 25%-30%!!

>
>Will continue watching your posts with interest.
>72, Bob N6WG

Thanks, Bob, for your kind comments. As I gain insight into tuners and
tuning, I'll continue to keep the group informed.

CUL,
Bob Kellogg, AE4IC, Greensboro, NC
Probably, but not necessarily. - Benny Hill

From owner-qrp-1@Lehigh.EDU Mon Jan 13 18:02:40 1997
From: Patrick McVey <mcvey@kingman.com>
Subject: [8750] Re: Tuning range on Radio Shack shortwave
Message-ID: <199701132323.QAA04466@king.serv.kingman.com>

>It already receives the 40M novice band! 7.100 MHz to 7.150 Mhz.
>
>The REAL problem is that it probably receives the whole band at once (no
>selectivity) and is a Direct Conversion receiver, so that it will be
>overwhelmed by Broadcast Interference.
>73 =paul= w8kc

So, if there are signals on 7.100 and 7.120, I would hear both of these
signals because the receiver is not able to resolve either signal?
Patrick McVey
(520) 757-8111, x227
Kingman, Arizona

From owner-qrp-1@Lehigh.EDU Mon Jan 13 18:02:40 1997
From: ka7you@juno.com (rodney j johnson)
Subject: [8675] Re: Wanted: 40m or so xcvr
Message-ID: <19970112.200736.11558.19.KA7YOU@juno.com>

Robert,
I hear rumblings that some people are already working toward
modifying the 38 Special to 20M and to 40M also. With the 5 watt add-on,
that might be an interesting combo-three identical rigs, with one
bandswitching amp, keyer etc. Put all three rigs in the same box, with
the one set of accessories, and one output connector, or maybe three. It
could be done for under \$100 if you had a case and a most of the misc
connectors. \$150 would probably get it all.

Just a thought!

7 3,

Rod Johnson KA7YOU On Sun, 12 Jan 1997 21:49:38 -0500 (EST) Robert
Penneys <radio@UDel.Edu> writes:

>

>

>Looking for a small/portable CW xcvr, preferably 40, then 20 or 30.
>Tnx, Bob N9GG Frankford Radio Club
>
>
>
> Finally - the Delaware QSO Party!!
>
> Sponsored by the First State Amateur Radio Club
>
>Who - All radio amateurs in and out of Delaware
>
>When - First full weekend in February (1997: Feb 1 & 2)
> Saturday: 1700Z (1200 EST) until 0500Z Sunday (2400 EST
>Sat.)
> Sunday: 1300Z (0800 EST) until 0100Z (2000 EST Sun.)
>
>
>Where - Suggested frequencies are:
>
> Phone CW
> 1.860 1.825
> 3.960 3.550
> 7.260 7.050
> 14.260 14.050
> 21.360 21.050
> 28.360 28.050
>
> Novice and Technician freqs: 25 kHz above sub-band edge
>
> This does not imply that you may not work any bands you
>choose,
> such as VHF/UHF/SHF. However, as there is only one entry
>class,
> all logs will be judged equally.
>
>How - Work stations once per band and mode.
> Exchange signal report and QTH (county for Delaware
>stations;
> state/province/DXCC country for others).
>
>Scoring - There is ONE CLASS for all stations.
> Count ONE POINT per PHONE QSO.
> Count TWO POINTS per CW/RTTY/Digital QSO.
> Multipliers/special event stations: NONE.
>
>Awards - Certificates will be awarded in the following categories:
> Within Delaware: first, second and third highest score.
> Within each Delaware county: highest score.

> Others: first, second and third highest scores.
> Further prizes and certificates may be awarded, depending
> upon participation and merit.
> Certificates and prizes courtesy of Ham Radio Outlet,
> Delaware.
>
> Submissions-
> There are no requirements for dupe sheets, and no forms nor
> software offered especially for this contest.
>
> Logs must show date, time, band, mode, station worked,
> exchange
> send and received, entrant's call and QTH, and total summary
> of
> QSOs and points. You are assumed to be observing the rules
> of
> amateur radio and contesting, so that no such written
> statement
> is required.
>
> Mail entries within 30 days to: Contest Chairman
> FSARC, Inc.
> P.O. Box 1050
> Newark, DE 19715
>
> Include SASE for results.
>
> E-mail logs with adequate summaries, and any other
> comment or inquiry to:
>
> radio@udel.edu
>
> Results will be posted through 3830@contesting.com, and
> e-mailed
> to NCJ and CQ.
>
> Thanks and LET'S GO DELAWARE!!
>
>
>

From owner-qrp-1@Lehigh.EDU Mon Jan 13 18:02:40 1997
From: "Sapko, Eileen" <esapko@arrl.org>
Subject: WAS-QRP

Ken,

An endorsement for QRP is available for the Basic WAS award. QRP is defined as 10 watts input (or 5 watts output).

73, Eileen Sapko, Awards Manager

From owner-qrp-1@Lehigh.EDU Mon Jan 13 18:02:40 1997

From: Frank G3YCC <g3ycc@gqrpclub.demon.co.uk>

Subject: [8730] Re: Will Snowy Roof Affect Antenna?

Message-ID: <853179564.620490.0@gqrpclub.demon.co.uk>

Yes, snow will affect performance in my experience, of an indoor antenna, as you seem to have found out, but it will perform still, just pray for a thaw!

Have fun!

-----72/3 de Frank G3YCC -----

GQRP CLUB 042

QRP WEB SITES: <http://www.gqrpclub.demon.co.uk>

<http://www.geocities.com/CapeCanaveral/5179>